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NOTE.

In the course of editing it has been found necessary to add certain footnotes; these are distinguished from the footnotes of the writers of the reports by being without initials.

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Appendix.

The Approximate Distribution of Russian Troops on
Various Dates.

Outbreak of war.—The outbreak of hostilities found the Russians unprepared; no orders for mobilization had been issued and they were in the midst of re-armament and re-organization.

The actual troops under arms east of Lake Baikal when hostilities commenced were as follows:—

Cavalry.

Primorsk Dragoons, 6 squadrons.
1st Argun Cossacks, 6 squadrons.
1st Chita Cossacks, 6 squadrons.
1st Nerchinsk Cossacks, 6 squadrons.
1st Verkhne-Udinsk Cossacks, 6 squadrons.
Amur Cossacks, 6 squadrons.
Ussuri Cossacks, 3 squadrons.

Artillery.

1st and 2nd Batteries Trans-Baikal Cossack Horse Artillery,
12 guns.
1st East Siberian Artillery Brigade, 64 guns (16 of these
were mountain guns).

2nd East Siberian Artillery Brigade, 32 guns.
Trans-Baikal Artillery Division, 16 guns.
East Siberian Rifle Artillery, 24 guns.
2nd Divisions of the 31st and 35th Artillery Brigades,
48 guns.

Infantry.

9 Brigades East Siberian Rifles, 80 battalions.
1st Siberian Reserve Brigade, 4 battalions.
2nd Brigades of the 31st and 35th Infantry Divisions,
16 battalions.

Frontier Guards.

55 companies (250 men in each).
55 squadrons (150 men in each).
48 guns.

Engineers and Railway Troops.

Ussuri Railway Brigade.
Trans-Amur Railway Brigade.
East Siberian Engineers, 3 battalions.

Fortress troops in Port Arthur and in the Ussuri District.

The artillery was in course of re-armament with quick-firers, and so far as I have been able to ascertain the two horse artillery batteries, one battery of the 1st East Siberian Artillery Brigade and the 2nd Divisions of the 31st and 35th Artillery Brigades were the only batteries in possession of quick-firers when the war broke out. The East Siberian Rifle Brigades, three of which had only recently been raised, were about to be re-organized in divisions of 12 battalions each, and though the order for this was not issued till the 28th February the commanders had been appointed and had been warned to hold themselves in readiness to proceed to the Far East.

None of the above units was up to war strength, and if 600 per battalion and 150 per squadron be taken, I do not think it will be an underestimate of the actual numbers of troops available.

The Frontier Guards, the Reserve Brigade, and the Railway Troops were up to strength, but could not be reckoned as available for operations; the railway had to be protected and the reserve battalions could not move until they were mobilized.

The actual troops available for operations were therefore—

39 squadrons.
96 battalions.
196 guns.
Or 5,850 sabres, 57,600 bayonets, 196 guns.

The distribution of these troops was, so far as I have been able to ascertain, as follows* :—

Port Arthur and Ta-lien-wan, 6 squadrons, 26 battalions, 40 guns.

On the Ya-lu, and at Feng-huang-cheng and neighbourhood, 3 squadrons, 2 battalions, 22 guns.

Ying-kou, 1 squadron, 9 battalions, 8 guns.

Liao-yang, 1 squadron, half battalion, 4 guns.

Mukden, 1 squadron, 2½ battalions.

Kirin, 2 battalions, 2 guns.

Harbin and neighbourhood, 3 squadrons, 4 battalions 8 guns.

Vladivostok and Ussuri District, 24 squadrons, 42 battalions 104 guns.

At various other stations, 8 battalions, 8 guns.

A glance at the above table shows that the only considerable bodies of troops were in the neighbourhood of Port Arthur and Vladivostok.

The first movement of troops was the dispatch of the 3rd East Siberian Rifle Brigade, 8 battalions and 24 guns, from Port Arthur to the Ya-lu, which movement began immediately after the opening of hostilities.

So far as engineers, ammunition columns, and departmental troops were concerned it is impossible to say what troops were available or where they were, beyond that there were three battalions of engineers, one of them only recently formed; the ammunition columns and departmental troops had not been mobilized, and were in a state of re-organization even after mobilization.

From what I heard after joining Head-Quarters at Liao-yang, there can be no doubt that the supplies of food and ammunition in Port Arthur at the outbreak of war were anything but what they should have been; even after my arrival towards the end of April stores of all kinds were being pushed into the fortress with all possible speed, and it was a matter of universal satisfaction that two trains full of ammunition reached the fortress after the Japanese had landed; the extreme importance attached to the arrival of these two trains was proved by the officer in charge of that section of the railway being immediately decorated as soon as it was known that the ammunition had safely arrived.

I was told by an officer holding a high post on the Viceroy's staff that had the Japanese landed troops on the night of the 8th-9th February nothing could have prevented the fortress from falling.

It was very remarkable what erroneous ideas were held as to the position of affairs at Ying-kou; on the 10th April, close to Wei-hai-wei, the ship that I was in spoke another ship

* See Map 89.

belonging to the same company which had just left Ying-kou; the captain reported that the Russians had closed the port, mined the channel, and that in future no ships would be allowed to enter; this statement I found to be incorrect on arrival there.

On the 28th February an order was issued for the re-organization of the East Siberian Rifle Brigades in East Siberian Rifle Divisions of four three-battalion regiments and four eight-gun batteries each;* the field batteries which were in existence at the outbreak of hostilities formed the nucleus of the artillery, which was raised to the required strength by drafting men and material from Europe.

When or how this re-organization was carried out I am unable to say, but on my arrival at the Head-Quarters of the Manchurian Army at Liao-yang, on the 25th April, it was an accomplished fact; all East Siberian Rifle Regiments had three battalions and were grouped in divisions, each division with four batteries of artillery. The artillery had all been re-armed with quick-firers.

1 April. The actual troops available for active operations on my arrival were as follows:—

Ussuri Army - 22 battalions, 12 squadrons, and 64 guns.
 Manchurian Army 104 „ 63 „ „ 294 „

The distribution of these troops, so far as I was able to ascertain it, is given in the Appendix, "Distribution of Russian Troops."†

The Ussuri Army was not under General Kuropatkin, and was stationed in the vicinity of Vladivostok; the Manchurian Army was concentrated in four main groups as below; the remaining field troops were on the railway or distributed in small garrisons awaiting relief before joining the main groups of the Army:—

I.—Port Arthur and neighbourhood—
 18,750 bayonets.
 54 guns.

II.—On the Ya-lu—
 3,150 sabres.
 15,750 bayonets.
 76 guns.

III.—Ying-kou—Ta-shih-chiao—
 900 sabres.
 17,550 bayonets.
 64 guns.

IV.—Liao-yang and neighbourhood—
 2,700 sabres.
 16,250 bayonets.
 76 guns.

* Except the 7th and 8th Divisions, which had only three batteries each.—J. M. H.

† See page 40.

The above grouping gave roughly 18,000 men for the protection of each of the three important points, Port Arthur, Ying-kou, and the Ya-lu, with a central reserve of the same strength at Liao-yang. The numbers have been arrived at by taking battalions and squadrons on the Ya-lu and at Port Arthur at 750 and 150 strong, and those elsewhere at 650 and 150 respectively. These numbers certainly do not err on the side of an underestimate.

The actual force, therefore, which the Commander-in-Chief had available for active operations on the 25th April was—

6,750 sabres, 68,300 bayonets, and 270 guns.

The remaining troops were not available at any rate for a week or more and cannot therefore be taken into consideration when estimating the force at General Kuropatkin's disposal.

The value of the artillery was much discounted by the fact that the majority of the batteries had only recently received the new gun and that neither officers nor men understood it; it was, I believe, a fact that many of the batteries had never fired their guns until they did so in action.

General Situation.—Very little was known of the position of the Japanese. The advanced guard cavalry was in touch with the Japanese advanced troops in Korea, but beyond this nothing was known. The Russians were very nervous about a descent on Ying-kou and a landing on the Kuan-tung Peninsula, and the most varied rumours were floating about.

Absolute secrecy was maintained as to the position and strength of the Russian troops, and I was astonished on arriving at Liao-yang to find how very inaccurate even the estimates made at Ying-kou were.

The Russians had taken possession of the telegraph station on both sides of the river at Ying-kou and had established a most rigorous censorship, so that nothing was able to leak out from that side, and the Chinese reports were so inaccurate as to be absolutely misleading.

At Ying-kou, beyond censoring all telegrams and scrutinizing all passengers arriving from China, for which purpose they had an officer and a small guard at the terminus of the Eastern Chinese Railway on the right bank of the Liao, the Russians did not seem to be interfering much in the treaty port. The troops were mainly in the Russian settlement, four miles up river from the port; there were very few Russian troops in the treaty port proper; whether the entrance was mined or not I could not ascertain, but in this respect it may be of interest to mention that there were several merchant steamers in the river loading or unloading cargo. The only warship in the port was the Russian gunboat *Sivuch*.

At the terminus of the Russian railway, however, a very strict supervision was exercised and it was practically impossible for foreigners to enter Manchuria unless they were properly accredited attachés or correspondents.

Most of the foreign military attachés had already arrived and were at Liao-yang, amongst the number being General Sir Montagu Gerard and Colonel Waters.

The *moral* of the army was excellent, and the general tone most optimistic, the general feeling even amongst foreign officers being that the campaign would be a mere promenade for Russia.

The railway was working very slowly, not more than three military and two civil trains running daily. The authorities seemed to be in no hurry about pushing up new units, the only troops arriving being drafts to bring the troops in the theatre up to strength and various departmental details. About one train load of stores was arriving daily at Liao-yang. There was no scarcity of supplies of any sort, and so far as I could see nothing coming by rail was being used, the troops purchasing everything locally. The only energy being displayed by the authorities was in pushing ammunition into Port Arthur, where rumour had it that the supplies were very short.

No ammunition columns had so far arrived at Liao-yang, and all departmental troops as well as engineers were in the midst of a general re-organization. The troops available at the outbreak of hostilities had been organized in three army corps, but as this organization was never adhered to it seems superfluous to give details.

Ample arrangements had been made for dealing with sick and wounded, large Red Cross hospitals having been established all along the railway and several hospital trains were already available. The Red Cross hospital established at Liao-yang seemed to be as perfect as could be hoped for under service conditions; there were 200 beds already available and more were being rapidly arranged for. The activity of the Russian authorities in providing hospitals was very noticeable, and one could only presume that they had taken to heart the lesson of 1877-78 with regard to medical arrangements.

The protection of the railway had been most carefully organized; it was hard to see how the enemy could damage it, as it seemed absolutely safe against small raiding parties, which were all that could reasonably be expected so early in the war.

The relations between the Russians and the Chinese seemed to be excellent; the Russians were paying liberally for all supplies and the coolies employed by them were receiving about four times the normal wage; the Russian troops were largely billeted in Chinese villages, for the accommodation in which a very liberal rent was being paid.

There seemed to be a certain nervousness as to the possibility of some movement on the part of General Ma across the Liao River, and it was for this reason that a fairly strong body of mounted troops was maintained on that river.

At Shan-hai-kuan, the Chinese, with a view to stopping contraband, maintained a very rigorous inspection of all baggage

going by rail to Ying-kou. A Russian officer had all his baggage seized as he was suspected to have silk for war balloons in his boxes.

Liao-yang was being rapidly fortified, twelve semi-permanent works were under construction, and the intention of making it into a large entrenched camp as an advanced base was no secret.

On the 28th April the Trans-Baikal Cossack Division, under **28th Apr** the command of Major-General Rennenkampf, whose concentration was now complete, was inspected by the Commander-in-Chief; the division consisted of four regiments, each of six squadrons, and two batteries of Cossack horse artillery; the whole division, cavalry and artillery, was composed of second category men.* After having been inspected, the division marched to Sha-ho-pu on the railway, about 11 miles south of Liao-yang, leaving five squadrons of the 2nd Chita Regiment at Liao-yang. Four out of these five squadrons left on the 29th to join the advanced guard on the Ya-lu.

On the 30th April the 23rd East Siberian Rifle Regiment, **30th Apr** with a battery, left Liao-yang to join the head-quarters of its division on the Ya-lu. The men were wearing grey blouses instead of white ones, an order having been issued that troops were not to wear white during the campaign.

The 23rd Regiment and a section of an ammunition park were the only troops brought up by rail since the 25th, with the exception of drafts which were immediately pushed on to Port Arthur. Large quantities of stores were constantly on the move towards the Ya-lu, the formation of a large advanced base at Feng-huang-cheng having been ordered; in spite of this pushing up of stores towards the Ya-lu, a large accumulation was taking place at Liao-yang.

Battle of the Ya-lu.—On the 1st May the Japanese crossed **1st May** the Ya-lu in force, rolled up the Russian left wing, the passage being covered by the fire of 4·7-inch guns, and forced the Russian advanced guard to fall back on Feng-huang-cheng. The news of their defeat in the first land engagement caused a feeling akin to panic amongst the Russians, more especially as on the 30th official news had been received and had been duly telegraphed to the Tsar that two battalions of the Japanese Guard Division and a battery, which had succeeded in crossing the river, had been driven back in disorder; jubilation was great, and the successful issue of what at most could only be considered a skirmish was magnified into a brilliant victory of happy augury for the future.

The following is the official account given to the military attachés by an officer of the staff:—

The advanced guard on the Ya-lu, under the command of Lieut.-General Zasulich, consisting of 21 battalions of infantry,

* Cossacks are divided into categories—first category, those serving with the colours; second category, first reserve; third category, second reserve.

with 8 machine guns, 2 horse-artillery, and 7 field batteries and 1 mountain battery, together with 16 squadrons of Cossacks was disposed as follows:—

The main body was between Chiu-lien-cheng, through An-tung, and Liu-tao-kou. The 22nd Regiment and one battery were near Wiju, with the 12th Regiment and a battery in reserve, the position of other troops was not given. The cavalry was on both flanks.

On the 26th, 27th, and 28th April, there was a considerable amount of manœuvring and skirmishing, the Japanese endeavouring to occupy the hills in the angle between the Rivers Ai and Ya-lu, with the result that the Japanese got two battalions and a battery across; but these troops were driven back on the night of the 28th/29th April. Meanwhile, however, the Japanese had marched a strong column in the direction of Tu-kuan.*

On the 29th the cavalry down the river reported that the Japanese had moved some gunboats up stream.

On the 30th the Japanese opened fire from the hills on the left bank near Wiju and compelled the Russians to evacuate the hills in the angle between the two rivers; the Russian losses, however, were small. The Japanese enveloping movement continued during the whole day.

On the 1st May the Japanese, having crossed the Ya-lu during the night, began a heavy cannonade at 4 a.m. with twelve 4·7-inch guns and twenty-six field guns, directed against the Russians in position on the right bank of the Ai. In two hours the Russian battery was silenced, the battery commander as well as one battalion commander being killed. The Japanese then crossed the Ai and the position of the 22nd Regiment became serious.

Meanwhile the enveloping movement of the Japanese began to be felt, their columns crossing the Ai near Chi-kou; the 12th Regiment and a battery were sent to stop them, the 22nd Regiment receiving orders to hold on at all costs till the 12th was in position. The 22nd Regiment retired unnecessarily early, abandoning its battery after rendering the guns unserviceable; its retirement caused considerable confusion amongst the trains on the road. The trains were not got into order till Tang-shan-cheng was reached. They seem to have retired in the greatest disorder, the hospital of the 11th Regiment being left in the hands of the enemy.

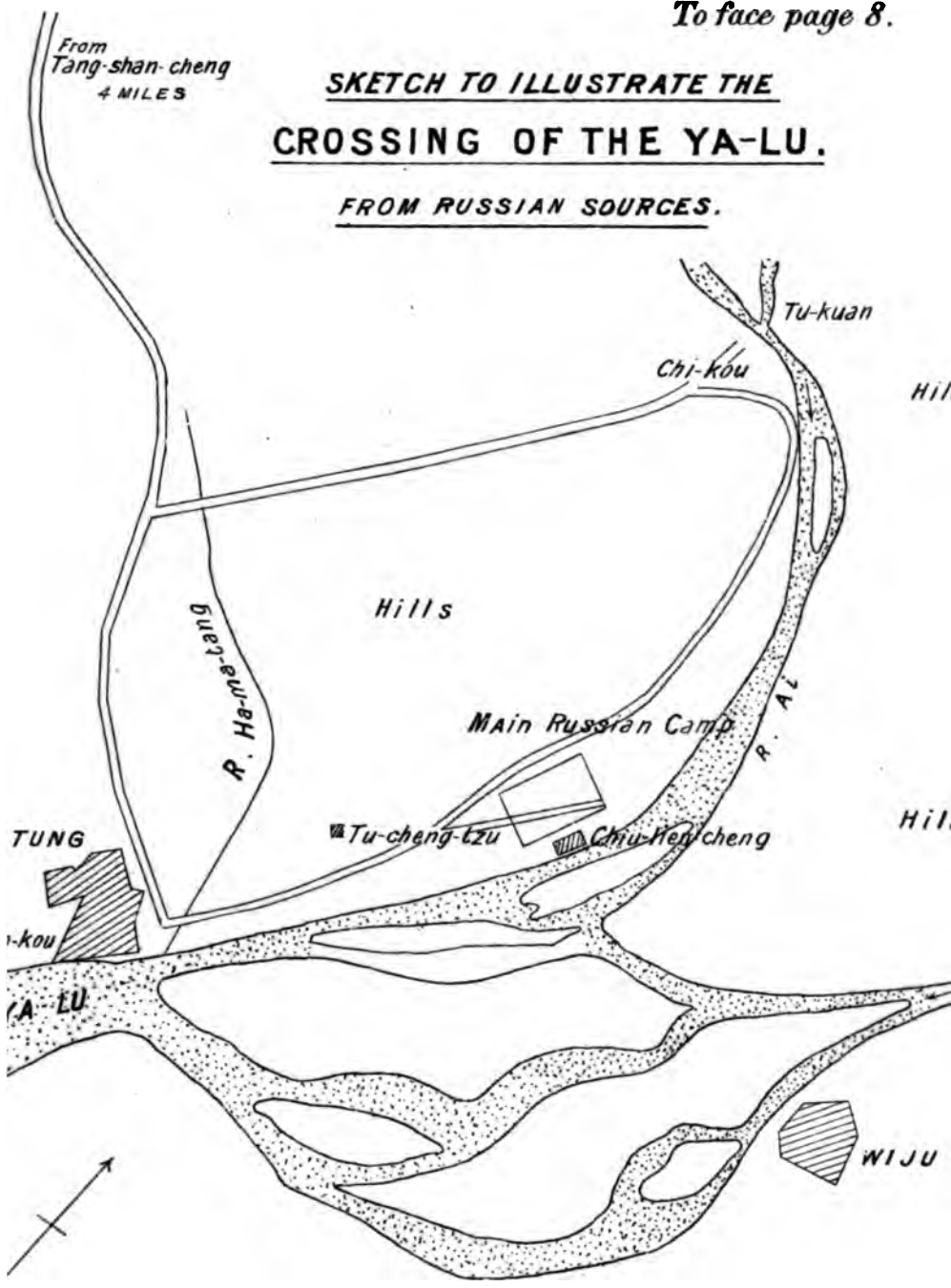
The 12th Regiment, being in difficulties, a counter-attack by the 11th Regiment, supported by a battery, was ordered in order to extricate it; as a result both regiments got away, but lost 14 out of the 16 guns with them and all their Maxims.

The result of the action was that the advanced guard retired towards Feng-huang-cheng in perfect order; one battalion of the 10th Regiment, however, was reported to have been cut off.

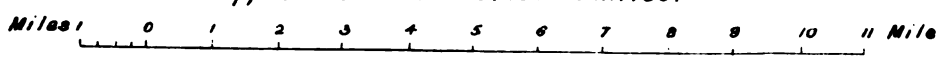
* See Plate opposite.

To face page 8.

SKETCH TO ILLUSTRATE THE
CROSSING OF THE YA-LU.
FROM RUSSIAN SOURCES.



Approximate Scale. 1 inch = 3 miles.



The Russians estimated their losses at 2,000, and those of the Japanese at fully double. The Russians abandoned 22 field and 8 machine guns.

As a result of the battle the telegraph line beyond Feng-huang-cheng was dismantled.

Russian criticism was to the effect that the more Japanese across the Ya-lu the better for Russia when the advance really began, after the arrival of reinforcements from Europe.

The regiment and battery occupying An-tung took no part in the battle, being forced to evacuate the town by the fire of the Japanese gunboats.

New grouping of Russian Forces.—The defeat of the advanced guard on the Ya-lu led to a new grouping of the Russian forces. The cavalry under General Mishchenko was split up, the general himself with 10 squadrons and one horse battery moving west in the direction of Hsiu-yen* to close the gap between the troops retiring from the Ya-lu and the 1st Siberian Army Corps in the vicinity of Ta-shih-chiao. The Primorsk Dragoons were concentrated and, with a horse battery and a regiment made up of six squadrons of Frontier Guard cavalry, were pushed out south of the 1st Siberian Army Corps. The 9th East Siberian Rifle Division, leaving only one regiment and a battery at Ying-kou, took the place of the 1st at Ta-shih-chiao, which retired to Hai-cheng, while the 5th Division concentrated at Liao-yang. A small detachment of three squadrons under the command of Lieut.-Colonel Madridov, was formed to raid the Japanese communications in Korea; and General Rennenkampf's division, which had meanwhile returned to Liao-yang, left on the 4th May to operate in the hills east of Feng-huang-cheng, in the neighbourhood of Sai-ma-chi. The Ya-lu advanced guard retired north of Feng-huang-cheng. The position of the Russian forces on the 16th May, after all these changes had taken place, is shown in the Appendix.† The distribution was, in short, as follows, taking all battalions, except those engaged on the Ya-lu, at 800 strong and squadrons at 150:—

Garrison of Port Arthur and Ta-lien-wan; Lieut.-General Stessel:—

300 sabres,
22,400 bayonets,
66 guns,
Fortress troops in addition.

Eastern Group; Rennenkampf's and Madridov's cavalry and Ya-lu advanced guard (now called Eastern Detachment) north of Sai-ma-chi-Feng-huang-cheng:—

3,900 sabres,
16,050 bayonets,
56 guns.

* See Map 89.

† See page 43.

Hsiu-yen-Wa-fang-kou ; advanced Cavalry, Major-Generals
Mishchenko and Samsonov :—

3,300 sabres,

12 guns.

Ta-shih-chiao-Ying-kou and Hai-cheng ; 1st Siberian Army
Corps, Lieut.-General Baron Stakelberg :—

19,200 bayonets,

64 guns.

Liao-yang and along the Liao River and lines of communica-
tion to the Eastern Group :—

2,850 sabres,

28,800 bayonets,

86 guns,

2 engineer battalions.

To resume the narrative, after the battle on the Ya-lu, the Japanese followed up the Russians, and by the evening of the 3rd May had between 20,000 and 30,000 men 10 miles south of Feng-huang-cheng, with outposts towards that town, which
th May. they occupied on the 6th with a small force.

The Japanese began landing in Hou-tu-shih Bay, south of Pi-tzu-wo, on the 5th May, and cut the railway near Wa-fang-tien at 11 p.m. on the 6th May.

On the 6th May the Viceroy arrived at Liao-yang, having left Port Arthur in the nick of time ; he stayed a few hours to confer with the Commander-in-Chief. It leaked out that there was a considerable difference of opinion as to the action of General Zasulich.*

Further accounts of the battle showed that the Japanese were greatly assisted by the fire of their gunboats.

On the 8th May the Russian losses on the Ya-lu were officially given out as 30 officers and 560 men killed, 20 officers and 1,300 men wounded, and one officer and 60 men missing ; however, on the 10th May a final statement of losses was made, which were stated to be 1,400 killed, 1,100 wounded, and 600 missing.

th May. On the 7th May it was officially given out that a new squadron was being prepared in the Baltic for despatch to the Far East, which was to be known as the Second Pacific Squadron, the fleet already in the east having received the designation of the First Pacific Squadron ; the order published to this effect was dated the 30th April, 1904.

In the beginning of May the Cossack regiments which had been operating in Korea since the commencement of the war had lost so many horses that officers had to be sent to buy remounts.

For the first few days after hearing of the news of the battle of the Ya-lu, no notice seems to have been taken, but about the 8th May it was apparent that orders had been issued

* See page 212.

for an evacuation of Liao-yang, as large quantities of stores were sent north; this evacuation ceased on the 11th, it being said that the Tsar had sent peremptory orders that the town was to be held at all costs.

On the 9th May the line which had been cut on the 6th was repaired, and trains were again running to Port Arthur. A trainload of ammunition succeeded in reaching Port Arthur on the 10th May. **9th May**

Colonel Madridov's detachment made an attack on Anju on the 10th May, but was driven off and retired on the 11th.

The first echelon of the 1st Siberian (Reserve) Division arrived at Mukden on the 9th April, and a whole regiment of the division, over 4,000 strong, arrived at Liao-yang on the 12th May. The Xth Army Corps began leaving Europe on the 10th May. On the same date the Japanese were stated to have 40,000 men at Feng-huang-cheng and to have detached a column of 20,000 men towards Hai-cheng.

On the 13th May the railway was finally cut by the Japanese north-east of Pu-lan-tien, and Port Arthur was completely isolated. **13th M**

On the night of the 13th/14th May some five hundred Hung-bu-tzu made an attack on the railway near Yen-tai station, but were beaten off with loss by a detachment sent from Liao-yang.

On the 15th May the 4th Siberian Army Corps began to detrain at Liao-yang. This corps is composed of the 2nd and 3rd Siberian (Reserve) Divisions and Siberian Reserve Artillery; the railway was very active until the 24th, some ten trains a day arriving, mainly with troops of the 4th Siberian Army Corps, horse, foot, and artillery. **15th M**

By the 16th May the Japanese, after heavy fighting, occupied a line of hills four miles north of Chin-chou (Kinchou), in the course of which the Russians claim to have inflicted heavy losses on the enemy with trifling loss to themselves. **16th M**

From the 15th May great activity was displayed in the works round Liao-yang, many infantry trenches and gun pits being made in addition to the permanent forts.

On the 15th May the Japanese navy had a series of disasters, the battleship *Hatsuse* and the cruiser *Yoshino* being sunk, and the battleship *Yashima* and the cruiser *Kasagi* seriously injured; the battleships struck mines and the cruisers collided during a fog; this news was given to the Army on the 22nd May.

The Japanese began disembarking troops near Ta-ku-shan on the 19th May. **19th M**

The Commander-in-Chief inspected the following troops on the 20th May:—Four battalions 1st Siberian (Reserve) Division, eight battalions 2nd Siberian (Reserve) Division, and eleven **20th M**

squadrons, Siberian Cossacks; these troops had all arrived since the 12th May.

On the 24th May another review was held by the Commander-in-Chief of troops which had arrived since the 20th, they consisted of eight battalions Siberian infantry, seven squadrons Siberian Cossacks, fourteen guns (six old pattern), and about one thousand men to replace losses in the 3rd and 6th Divisions.

On the 20th May the Commander-in-Chief stated at lunch that the forwarding of supplies, ammunition, &c., to the Eastern Detachment was taxing the resources of the supply and transport departments to the utmost, and that it was quite impossible to send anything to General Rennenkampf, who had to live on the country.

The forces in Ussuri were reinforced by two regiments of Siberian Cossacks about the 24th May.

On the 25th May the first batteries of the 4th Siberian Corps arrived, but they were not armed with the new quick-firing gun.

h May. On the 26th May two regiments of Siberian Cossacks were sent south to form a cavalry division in conjunction with the mounted troops then at Wa-fang-kou, under command of Major-General Samsonov. This division was formed in order to work in front of the 1st Siberian Army Corps, which had been entrusted with the task of opening communication with Port Arthur. The determination to take the offensive was generally believed to be contrary to the wishes of the Commander-in-Chief.

On the 26th May the strong Russian position at Nan Shan was captured after severe fighting by the Japanese, who took 68 guns and 10 machine guns; on the following day Nan-kuan-ling, the railway junction for Dalny, was also captured by the Japanese, who took 4 more guns. This news was given to the army on the 31st May, the Russian official comments being that it was only a rear guard action and that the position was never meant to be held to the last, and that the guns captured were only valueless Chinese ones. The Japanese seem to have been largely assisted in the capture of the position by four gunboats and a torpedo-boat flotilla, which bombarded the Russian positions from the sea. The Russian losses in killed were said to be 700 of all ranks.

h May. On the 30th May, General Samsonov, commanding the cavalry advancing from Wan-chia-ling, had a brush with the Japanese, and though, owing to absence of infantry, he had eventually to retire, it may be as well to give a short account of the affair as the skirmish was well managed, the cavalry made good use of dismounted fire, and the horse artillery co-operated with good effect.

On the morning of 30th, General Samsonov advancing from Wan-chai-ling to Wa-fang-kou, received information about noon

that his advanced squadron of Frontier Guards, which had been in touch with the Japanese for several days, was being pushed back by a superior force from Wen-chia-tun to Wa-fang-kou. He sent up a squadron of dragoons, another one of Frontier Guards, a company of mounted scouts, and his horse artillery battery, at full speed, to reinforce the squadron engaged with the enemy, and hurried on himself with the rest of his command. The dragoons dismounted and reinforced the Frontier Guards, whilst the other Frontier Guard squadron and the mounted scout company prolonged the line to the right down the valley of the Fu-chou River; the horse artillery could not come into action, as it was impossible to drag the guns up the hill occupied by the dismounted dragoons, from which alone the enemy could be seen. About 1 p.m. the Japanese advanced from Wen-chia-tun to drive back the dismounted Russians. Two squadrons of Siberian Cossacks, however, which had meanwhile come up, formed line and charged the leading Japanese squadron, which caught unawares was annihilated. The Cossacks were, however, checked by machine gun and infantry fire and had to retire, pursued by two Japanese squadrons; these, however, were checked and driven back by the fire of the mounted scouts and Frontier Guard squadrons in the Fu-chou valley.

The dismounted dragoons on the left, who, from the nature of the ground, were unable to act mounted, advanced on foot and threatened the Japanese right flank, thus covering the left of the Cossacks. At 1.30 p.m. the horse artillery battery, having come into action, shelled the Japanese infantry and machine guns. About this time, Japanese infantry reinforcements having arrived, the Russians retired to Wa-fang-kou. The Russian losses were:—Men killed, 3; wounded, 33; horses killed, 17; wounded, 23. The Japanese loss was estimated at 300, 70 dead bodies of the squadron of the 14th Japanese Cavalry Regiment, which had been charged by the Siberian Cossacks, being counted.

The head-quarters of the 4th Siberian Army Corps arrived at Liao-yang on the 31st May, and the corps was practically complete on that date.

The distribution of the Russian forces on the 1st June is **1st Jun** shown in the Appendix* which may be summarized as under, allowing 800 per battalion and 150 per squadron, the Ya-lu losses having been replaced by drafts:—

Ussuri Army—Vladivostok and neighbourhood, Lieut.-General Lenevich:—

Field troops—

3,600 sabres,

17,600 bayonets,

64 guns,

1 battalion engineers.

Fortress troops in addition.

* See page 48.

Garrison of Port Arthur, Lieut.-General Stessel :—

Field troops—

300 sabres,
22,400 bayonets,
66 guns.

Fortress troops and sailors in addition.

Eastern Group, along the Fen-shui Ling crests, and hills north-east of Sai-ma-chi, Generals Rennenkampf and Keller :—

3,450 sabres,
19,200 bayonets,
70 guns.

Independent Detachment, north and east of General Rennenkampf, Lieut.-Colonel Madridov :—

750 sabres,
2 guns.

Connecting Eastern and Southern Groups, between Hai-cheng and Hsiu-yen, Major-General Mishchenko :—

2,400 sabres,
6 guns.

Southern Group. Advanced cavalry, Wa-fang-kou; remainder, Kai-ping, Ying-kou and neighbourhood, Lieut.-General Baron Stakelberg :—

3,300 sabres,
32,000 bayonets,
86 guns.

General reserve at Liao-yang, detachments on Liao River, and connecting with Southern and Eastern Groups :—

4,200 sabres,
35,200 bayonets,
118 guns,
2 engineer battalions.

After the skirmish of the 30th May the Japanese continued to press the Russians and occupied Wa-fang-kou. On the

3rd June. 3rd June, however, they evacuated this place, and retired to Pu-lan-tien, throwing out a chain of outposts to the north of that place and Pi-tzu-wo.

For the first few days of June the Russians were very active in pushing troops south, the whole of the 1st Siberian Army Corps being concentrated at Kai-ping, its place at Ta-shih-chiao and Hai-cheng being taken by the 4th Siberian Army Corps.

6th June. On the 6th June, General Samsonov was directed to transfer his head-quarters from Wa-fang-kou to Wa-fang-tien and push

out outposts towards Pu-lian-tien and Pi-tzu-wo. Wa-fang-tien was occupied by General Samsonov without opposition. He had at his disposal six squadrons, Primorsk Dragoons; one squadron, Frontier Guard cavalry; a mixed company of mounted scouts, six squadrons, Siberian Cossacks, and the 2nd Trans-Baikal Cossack Horse Artillery Battery; or a total of about 1,700 sabres and 6 guns. The re-occupation of Wa-fang-tien was important from its strategical position at the junction of (for Manchuria) good roads to Pi-tzu-wo, Fu-chou, Pu-lian-tien and Wa-fang-kou.

The station of Wa-fang-tien was found destroyed; this, however, was not the work of the Japanese, but of the Chinese, who only completed what the Russians had begun in the first panic caused by the Japanese landing in Kuan-tung.

General Samsonov sent out three squadrons on outpost duty about six miles south of Wa-fang-tien, in touch with those of the Japanese, and detached a squadron to Fu-chou to guard his right flank.

After the departure of the cavalry from Wa-fang-kou, about a division of infantry remained; General Stakelberg, who arrived on the evening of the 5th June, transferred his headquarters there on the 6th.

On the 7th June, Major-General Kozlov joined the advanced cavalry to watch the operations on behalf of the Viceroy.

The *moral* of the troops under General Stakelberg was excellent, practically everybody being certain of success, though some more thoughtful senior officers were anything but hopeful as to the result of the offensive.

On the 6th and 8th June, the Japanese fleet made a demonstration on the west coast and bombarded Kai-ping and Hsiung-yueh-cheng, but without doing any damage, though a considerable number of ships was engaged, including, according to Russian accounts, some battleships. In spite of this bombardment having no result, the moral effect must have been considerable, and doubtless led to the detention of two if not three divisions north of Wa-fang-kou, which, if they had been placed at General Stakelberg's disposal, might have rendered his offensive much more dangerous to the Japanese than it really was.

On the 7th June, Lieutenant-General Simonov arrived at **7th June** Wa-fang-tien and assumed command of the advanced cavalry; four more squadrons of Siberian Cossacks arrived with him; the strength of the advanced detachment was thus brought up to about 2,300 sabres and 6 guns. The outposts were increased, and including the detached squadron at Fu-chou, consisted of 5 squadrons and 2 guns.

On the 10th June, the troops at Wa-fang-tien were reinforced **10th June** by the first brigade of the 1st East Siberian Rifle Division and a field battery; the outpost line was immediately reinforced by half a battalion of infantry.

On this day railway and telegraphic communication were re-opened to Wa-fang-tien.

11th June. On the 11th the outposts were still further strengthened by two and a half battalions, owing to increased activity on the part of the Japanese advanced troops.

From the 9th to the 11th, both days inclusive, there was a certain amount of desultory fighting between the outposts, which led to the capture of the village of Li-chia-tun* on the night of the 10th/11th June by the Japanese, and it was partly with a view of its recapture that the outposts were further strengthened on the 11th June.

The Russian orders were actively to harass the Japanese and give them no rest, a course which, in the end, proved more harmful to themselves than to the enemy. In the skirmishing up to the evening of the 11th June, the Russian losses were 1 officer wounded, 2 men killed, and 7 wounded or missing.

On the 11th June, head-quarters at Wa-fang-tien received information that the Japanese had landed 6,000 men and 32 guns on the 8th June.

The advance of the Japanese may be said to have begun on the 11th, on which date they took the village of Li-chia-tun* and tried to take Wu-chia-tun.†

Before describing the operations which terminated with the defeat of General Stakelberg, it may be as well to review the situation, and the general plan sketched out for him by the Commander-in-Chief. The advance towards the south was apparently undertaken against the wishes of the Commander-in-Chief in accordance with orders received from the Viceroy. The actual advance from Wa-fang-kou seems only to have been of the nature of a demonstration, the plan, if any existed, seems to have been to send out the advanced cavalry to Wa-fang-tien with outposts still further to the south, in order to cover the concentration of an army at Wa-fang-kou. The force at Wa-fang-tien, if not attacked in strength, was to hold its position; if attacked by superior numbers it was to fall back on Wa-fang-kou, where the 1st Siberian Army Corps was concentrated and had been directed to prepare a defensive position, where it was hoped General Stakelberg would be able to hold the Japanese until the arrival of reinforcements would enable him to take the offensive with a view to raising the siege of Port Arthur. However, the Japanese were too quick and drove back General Stakelberg before a sufficient force could be concentrated for any real offensive.

On the 11th June, when the Japanese offensive may be said to have commenced, the Russian force at Wa-fang-tien and south of it was—

6 battalions, 1st East Siberian Rifle Division.

1 battery, 1st East Siberian Rifle Division.

* About 8 miles south of Wa-fang-kou.

† About 7 miles south of Wa-fang-kou.

Primorsk Dragoons, 6 squadrons.

4th Siberian Cossacks, 2 squadrons.

5th Siberian Cossacks, 2 squadrons.

8th Siberian Cossacks, 6 squadrons.

Detachments of Frontier Guards, Verkhne-Udinsk Cossacks, and mounted scouts, or, say, 1 squadron.

2nd Trans-Baikal Cossack Horse Artillery Battery.

Or, roughly, 4,000 bayonets, 2,000 sabres, and 14 guns.

At Wa-fang-kou on this date there were probably 23 battalions, 6 squadrons, and 64 guns.

On the night of the 11th/12th June the Russians re-took the village of Li-chia-tun and maintained their position during the 12th, their losses being 4 men killed and 22 wounded.

The general advance of the Japanese began on the 13th 13th Ju June. Between 8 and 9 a.m. news was received at Wa-fang-tien that the Japanese were moving in force from Pu-lan-tien, having begun their advance at 6 a.m. About 7.30 a.m., Japanese columns were visible about 12 miles south of Wa-fang-tien on a line between the railway and the River Ta-sha.

At 10.30 a.m. the Japanese occupied Wa-fang and at noon the first shots were exchanged. At 2 p.m. the Japanese lines of advance could be distinctly seen from the neighbourhood of the station at Wa-fang-tien; they were apparently advancing in three columns on a broad front of about 8 miles from Wang-ta-kou* to the valley of the Ta-sha.

The Russian outposts withdrew slowly and in good order. The troops were disposed as follows: General reserve, 3 battalions, 12 guns, and 3 squadrons just north of the station, with the exception of two guns, which were posted on a hill just south-west of it; the rest of the force was sent to reinforce the outposts.

At 4.30 p.m. the main reserve of the outposts retired to the station, and at 6 p.m. the majority of infantry and guns was sent to the rear. At 7 p.m. fighting ceased for the day, the Russian losses being only 1 officer and 10 men wounded. The total losses of the advanced detachment up to the evening of the 13th were 6 men killed, 2 officers and 39 men wounded.

Outposts, consisting of two companies of infantry, composite squadron of scouts and Frontier Guards, and five squadrons of cavalry, were left in and around Wa-fang-tien, the rest of the force and staff bivouacked on the railway 3 miles north of the station just north of hill 618 near Wu-chia-tun.† The night passed quietly.

Battle of Wa-fang-kou (Te-li-ssu).‡

On the morning of the 14th the Japanese renewed their advance in three columns; in the valley of the Ta-sha, along the railway and from Wang-ta-kou towards the station of Wa-fang-tien.

* Not on map.

† See Map 90.

‡ See also pages 83-88.

The 1st East Siberian Rifle Regiment and two guns, 2nd Trans-Baikal Cossack Horse Artillery Battery, took up a position on hill 618; by 8.30 a.m. the infantry who had been on outpost duty at Wa-fang-tien passed through this position; at 8 a.m. the cavalry began to retire, by 10 a.m. there were no Russian troops south of hill 618.

This hill was apparently held too long and the Japanese turned it from the east, with the result that there was a good deal of confusion in getting away. The orders for the advanced troops were to retire slowly and to draw the Japanese on to the prepared position some four miles south of Wa-fang-kou station, where the main body of the army corps was in position.

About noon Lieut.-General Simonov practically handed over command of the detachment to Major-General Samsonov; the infantry and field battery were directed to rejoin their division which was posted on the prepared position south of Wa-fang-kou.

General Samsonov took the cavalry away to the west crossing a low col to the west of the railway near the village of Chou-chia-tun, and passing by Ta-fang-shen halted near Lung-kou.

At 1.40 p.m. the Japanese commenced an artillery duel with the Russian guns in the centre.

About 3 p.m. Japanese columns began to appear in the hills south of Lung-kou and the 2nd Trans-Baikal Horse Artillery Battery came into action on a hill south-west of that village and claimed to have silenced two Japanese batteries which returned its fire, in any case it forced the Japanese to deploy and conceal their men.

By evening the Japanese had established themselves on the hills between Cheng-shan-tzu and Wang-chia-tien, the Russians remained on the position, with the cavalry in bivouac north-west of Lung-kou. With the exception of the 1st and 2nd East Siberian Rifle Regiments and some batteries, the Russian troops were hardly engaged during the day.

The Japanese made a great show of moving round the Russian left, whereas in reality they were the whole time massing troops against the right flank. The Russian Commander was completely deceived and kept his main strength on his left.

15th June. The troops at the disposal of General Stakelberg or which arrived on the field during the 15th June were as follows:—

1st, 2nd, 3rd, 4th, 33rd, 34th, 35th, and 36th East Siberian Rifle Regiments, the 139th, 140th, and Tobolsk Regiments; four batteries, 1st East Siberian Rifle Division; three batteries, 9th East Siberian Rifle Division; three batteries, 2nd Brigade, 35th Division; 2nd and 4th Trans-Baikal Cossack Horse Artillery Batteries; and four guns, Frontier Guard Artillery; the Primorsk Dragoons; parts of the 4th and 5th Siberian Cossacks; a mixed squadron of Frontier Guards, mounted scouts, &c.; and 8th Siberian Cossacks, or 36 battalions, 96 guns, and 21 squadrons,

giving a total force of about 34,000 combatants with 96 guns.

The Japanese were estimated at about 36 battalions, 12 squadrons, and 108 guns. I did not think that the Japanese employed any heavy guns, though some of the attachés thought they did.

The Russian position, which is shown on the map, was not a particularly good one; the guns were badly placed, some being unable to fire, and communication from one flank to the other was difficult, owing to the hilly nature of the ground; the Fuchou River cut the position in two, and the left was separated from the centre by a high spur.

So far as I could ascertain, the Russian troops were distributed as follows:—Left flank, 139th and 140th Regiments (2nd Brigade, 35th Division), with three batteries and four Frontier Guard guns; centre, 1st East Siberian Rifle Division, four regiments and four batteries, with one battery, 9th Division; right flank, two regiments, 9th East Siberian Rifle Division; on the extreme right, seventeen squadrons and one horse artillery battery; in reserve, three regiments of infantry, one horse artillery and two field batteries.

The night of the 14th/15th June passed fairly quietly, though there was an exchange of shots at midnight, and again at 1 a.m.

About 6 a.m., the Russians took the offensive on the left, driving back the Japanese some distance, and took some Maxims, which, however, they were unable to remove.

The cavalry moved out from its bivouac at 9 a.m. and opened fire shortly afterwards on the Japanese near Chengshan-tzu. By 7.30 a.m. the Russian cavalry could no longer maintain itself in the neighbourhood of Lung-kou and had to retire; the village itself was entered by the Japanese at 10 a.m.

The Siberian Cossacks did nothing all day, and even when called upon by General Samsonov did not respond, with the result that he had to rely entirely for all dismounted work on the Dragoons and his composite squadron.

There were originally five batteries in the centre, but the battery of the 9th Division being unable to fire owing to the configuration of the ground, was directed to join the reserve.

About 7 a.m. the Russian infantry on the right flank began to fire at the advancing Japanese, who were protected by the nature of the ground from Russian artillery fire, and covered, to a certain extent, by the fire of their own guns; by 9 a.m. the two regiments on the right began to retire, a regiment being sent up from the reserve to cover their retirement. At 9.15 a.m. the Japanese concentrated on the two Russian batteries just east of the railway, and in ten minutes completely silenced them; fourteen out of these sixteen guns had to be left on the position owing to the impossibility of withdrawing them under the Japanese fire. When these two batteries were silenced, they

turned on the other two and forced them to retire. Under cover of this artillery fire the Japanese infantry advanced round the Russian right and into the position; by 12.45 p.m. the battle was lost.

Reserves of infantry and artillery were brought into position near Wa-fang-kou station to cover the retirement, and the Tobolsk Regiment, which only arrived by train about 2 p.m., was sent up the slopes west of the railway* to prevent the Japanese from cutting the line of retreat. About 2 p.m. large quantities of Russian baggage appeared on the battlefield, and caused a good deal of confusion, as it was immediately ordered to countermarch.

At about 3 p.m. the station of Wa-fang-kou was set on fire, by Japanese shell according to some, by the Russians themselves according to other reports, and all stores accumulated there were destroyed.

About the same time, 3 p.m., General Stakelberg left the field for Wan-chia-ling.†

The cavalry was directed to march to Ho-wa and protect the right flank of the retiring army, but it was stopped by two Japanese battalions and a mountain battery, and consequently had to reach that place by a circuitous route.

About 4 p.m. a heavy rain storm greatly assisted the retreat of the Russians, as it completely hid their movements from the Japanese, who were in position on the surrounding hills.

The retirement, so far as the troops were concerned, was orderly, but there was great disorder amongst the baggage. General Kondratovich covered the retirement with the 9th Division.

Towards the end of the day there was a great shortage of artillery ammunition, and there appeared to be none in reserve.

The Japanese concentrated a large battery against the Russian centre, and had other isolated batteries dotted about. The central battery had the task of defeating the Russian artillery and preparing the infantry advance, whilst the isolated batteries seemed to have been given the task of firing on everything they saw in motion and generally to harass the Russians in every way in their power.

The Japanese main strength was on their left and in the centre, whilst the Russian strength was on their own left.

I estimated the Russian losses at the time to be some 5,000 killed, wounded and missing, the Japanese casualties must have been very much less. The Russians lost 14 Q.F. guns and 4 old-pattern Frontier Guard guns.

The Japanese guns were very hard to locate, as also was the infantry, and for a long time I was only able approximately to fix their position by the bursting of the Russian shrapnel.

The Russian guns, on the other hand, were very visible owing to the use of powder which made a distinct smoke, and

* See Map 90.

† See Map 89.

also to the dust thrown up by the spade and the shock of discharge. The Japanese used shrapnel and high-explosive shell, the Russians shrapnel only; the Japanese had several mountain batteries, the Russians none.

The Russians did not concentrate their fire and were consequently overwhelmed in detail by the concentrated fire of the Japanese guns.

The Russian cavalry was quite useless, and it is hard to see what was expected of it in a country like that round Wa-fang-kou, where massed on the battlefield it was quite out of place; two or three squadrons on either flank would have sufficed for reconnoitring purposes and a few orderlies at the disposal of unit commanders would have been ample. So far as I could see the Japanese employed their cavalry in this manner; they did not attempt to mass them in country quite unsuitable for their action, where they could do nothing but tire their horses.

I saw no signalling stations on the battlefield, though the field telegraph was used to a certain extent; mounted orderlies were freely used and the men as a rule did not appear to have any difficulty in finding their way about. I did not see a single telescope used by any Russian officer, and other attachés told me that they had also noticed the absence of telescopes.

The Russian troops showed themselves brave, but very immobile.

Combination was the key-note of the Japanese success, the want of which mainly led to the Russian defeat.

The lessons of the battle seem to me to be that the effect of concentrated fire from well-handled modern guns cannot be overestimated, that all guns should be brought into action as soon as possible, and that once an attack has developed not a gun should be kept in reserve. The fire of artillery should be concentrated either by massing guns or by proper control of them, and fire should be distributed in depth as well as in width; the Japanese employed fire distributed in this manner with excellent results.

There was no pursuit after the battle; the ground was unsuited for the action of cavalry even if the Japanese had been strong in this arm; their infantry must have been worn out with 3 days' marching and fighting, moreover the question of ammunition must have been exercising their leaders' attention as no effort was made to husband it, and fire was opened, especially by the artillery, at every possible target no matter how small or how fleeting.

On the 16th June orders were issued for a general retreat to 16th Ju Kai-ping, where the army was to concentrate and re-organize, this concentration to be covered by the cavalry, which was ordered to remain in touch with the enemy.

The 2nd Brigade, 31st Division, with three batteries, was directed to remain at Hsiung-yueh-cheng in immediate support of the cavalry, which on the 17th June was about six miles south

of that place; Wan-chia-ling, having been evacuated by the Russians, was occupied at 3 a.m. on the 17th by the Japanese.

18th June. The Russian cavalry retired about two miles on the 18th. During the retirement there was a certain amount of skirmishing, but the Russian losses according to official accounts were only trivial. No details were given.

4th/5th June. *Operations of General Mishchenko.*—During the first three weeks of June the Japanese Ta-ku-shan Army had not been idle, and even if its advance had been slow it had been steady, and General Mishchenko had been gradually pushed back. There had been constant skirmishing, of which the following is a brief resumé. On the 4th and 5th June there was skirmishing between the Russians and Japanese reconnoitring patrols from Feng-huang-cheng (Kuroki's Army) and Ta-ku-shan (Nodzu's Army). During this skirmishing General Mishchenko established the fact that the Japanese had begun to advance from Ta-ku-shan.

9th June. On the 9th June the Japanese drove the Russians out of Hsiu-yen, employing for this purpose, according to Russian accounts, 5 squadrons, 6 battalions, and 2 mountain batteries; the Russian losses were officially stated to be 1 man killed, 2 officers and 17 men wounded. The Japanese did not make any further movement in force from Hsiu-yen till the 16th, apparently occupying a week in bringing up supplies, and reconnoitring. On the 10th and 11th there were unimportant skirmishes west of Hsiu yen in which the Russians lost 4 men

16th June. wounded. On the 16th the Japanese began their advance from Hsiu-yen in two columns, along the Hsiu-yen—Kai-ping and Hsiu-yen—Ta-shih-chiao roads, towards the Chi-pan Ling* and Ta Ling respectively.

On the 16th, 17th, and 18th the Japanese advanced slowly and cautiously, the Russians retiring before them; there was skirmishing every day; the Russians in these three days' fighting lost 1 officer killed, 1 taken prisoner, and 20 men killed, wounded, and prisoners.

19th June. On the 19th the Japanese advance was temporarily checked on both roads; the Russians reported their losses near the Chi-pan Ling as 1 officer and 11 men killed and 5 men wounded, and south of the Ta Ling, 5 men killed and 7 wounded.

5th/6th June. *Operations in the hills East of Liao-yang.*—There was very little to record during the first three weeks of June in the eastern theatre of operations against Kuroki's Army. On the 5th and 6th June there were skirmishes on the Liao-yang—Feng-huang-cheng road, north of the latter place. On the 7th and 8th the Japanese drove the Russians back to the southern slopes of the Fen-shui Ling range†; the losses amongst the

* Ling means a pass in Chinese.

† This is the Fen-shui Ling north-west of Sai-ma-chi; the name is a common one and means Water-divide Pass.

Russians were insignificant, and were officially given at 12 men killed and wounded.

In the extreme east the Russians were driven out of Sai-ma-chi by a Japanese force estimated at six battalions, three squadrons, and two batteries; the Russian losses were officially stated to be 2 officers and 89 men wounded, and 7 missing. The official figures, however, can hardly be received as correct, as from private reports the Russian losses were much heavier, and there were certainly some killed.

On the 16th June the Russians re-occupied Sai-ma-chi, the 16th June Japanese retired towards Kuan-tien-chen, which they were reported to be fortifying.

The first echelons of the Xth Army Corps began to arrive on 20th June the 20th June. From the 1st to the 19th June inclusive the following troops arrived at Liao-yang :—

4th Siberian Army Corps, four battalions and five batteries.
 11th and 12th Orenburg Cossack Regiments.
 4th and 5th Ural Cossack Regiments.
 3rd and portions of 4th, 5th and 7th Siberian Cossack Regiments.
 11th and 20th Horse Artillery Batteries.
 An engineer battalion and an ammunition column.

The 10th Orenburg Cossacks also arrived and were detained at Mukden.

The 9th Orenburg and 6th and 9th Siberian Cossacks had also arrived at Vladivostok.

Distribution of Russian Troops on 21st June.—A detailed 21st June distribution of the Russian troops on the 21st June is given in the Appendix, which may be summarized as follows :—

Kai-ping and south of it towards Hsiung-yueh-cheng :—

3,600 sabres,
 25,600 bayonets,
 110 guns.

Chi-pan Ling and neighbourhood :—

1,100 sabres,
 9,600 bayonets,
 30 guns.

Ta Ling and neighbourhood :—

720 sabres,
 2,000 bayonets,
 8 guns.

Ta-shih-chiao—Ying-kou :—

2,700 sabres,
 9,600 bayonets,
 24 guns.

Hai-cheng—Hsi-mu-cheng :—

1,800 sabres,
16,000 bayonets,
60 guns.

The Russian troops in the south were thus roughly divided into three groups :—

Kai-ping and vicinity, under Lieut.-General Stakelberg;
Ta-shih-chiao and vicinity, under Lieut. General Zarubaiev; Hai-cheng and vicinity under Lieut.-General Zasulich.

The grand total of these three groups amounted to :—

9,920 sabres,
62,800 bayonets,
232 guns.

Eastern Group, Generals Rennenkampf and Keller, along the crest of the Fen-shui Ling to Hsiao-ssu-erh :—

3,120 sabres,
17,250 bayonets,
70 guns.

Independent Detachment, Lieut.-Colonel Madridov, north and east of the River Tai-tzu :—

1,300 sabres,
2 guns.

General Reserve, Liao-yang and neighbourhood :—

1,170 sabres,
7,200 bayonets,
30 guns,
2 battalions, engineers.

Ussuri army, Vladivostok and neighbourhood, Lieut.-General Lenevich :—

3,780 sabres,
17,600 bayonets,
64 guns,
1 battalion, engineers.

Fortress troops in addition.

Garrison of Port Arthur, Lieut.-General Stessel :—

300 sabres,
22,400 bayonets,
66 guns.

Fortress troops in addition.

The above numbers are arrived at by taking squadrons as varying from 110 to 150 men, battalions varying from 600 to 800, and allowing for guns lost at Wa-fang-kou.

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Operations south of Kai-ping.—On the 21st June the Japanese occupied Hsiung-yueh-cheng with a division of infantry

a brigade of cavalry, and thirty-two guns; on the 22nd they advanced 4 miles north of that place, continuing their advance on the 23rd, on which day they arrived within 10 miles of Kai-ping; on the 25th they retired south of Hsiung-yueh-cheng only holding that place with a detachment; on the 27th they recommenced their advance in force. The Russian cavalry was hotly engaged on the 27th and 28th, and preparations were commenced for the evacuation of Kai-ping.

Operations round the Chi-pan Ling.—On the 22nd and 23rd there was a good deal of skirmishing on the Hsiu-yen—Kai-ping road, the Russians losing 7 men killed, 4 officers and 14 men wounded and 1 man missing.

On the 24th the Russians evacuated the Chi-pan Ling.

On the 26th General Mishchenko fought a successful engagement with the advanced guard of a strong Japanese force advancing beyond the Chi-pan Ling, his losses being 1 officer and 6 men killed and 1 officer and 38 men wounded.

Operations round the Ta Ling.—On the 22nd June the Japanese advanced from Hsiu-yen towards Wang-chia-pu-tzu, south of the Ta Ling, but were checked; on the 26th the Russians were driven back to the Ta Ling, which was taken by the Japanese on the 27th, the Russians retiring to Hsi-mu-cheng. The Russian losses were officially reported to be insignificant—1 man killed and 20 wounded—and it is inconceivable why they evacuated the pass unless it was that they were running short of ammunition. In this connection it may be of interest to mention that the one Q.F. battery which they had in action expended the whole of its ammunition between daylight and 7.40 a.m., that is to say, in less than four hours. Unofficial information, however, put the Russian losses in the fighting at the Ta Ling at from 300 to 500 men killed and wounded.

Operations in the hills east of Liao-yang.—From the 23rd to the 26th June the Japanese were manœuvring and fighting to gain possession of the Mo-tien Ling, which was evacuated by General Keller's orders on the 26th. The Russians lost in this fighting, according to the official returns, 4 men killed, 5 officers and 31 men wounded, and 2 officers and 3 men prisoners.

In the extreme east there was a sharp engagement near Ai-yang-cheng south-east of Sai-ma-chi on the 22nd June, where the Russians claimed a success; they lost 26 men killed, 7 officers and 53 men wounded.

On the 26th June the Japanese took Sai-ma-chi, and General Rennenkampf withdrew towards Hsi-ho-yen and the Fen-shui Ling crests.

On the 25th June the Commander-in-Chief left Ta-shih-chiao to reconnoitre a position south of that place which he ordered to be fortified at once. The same day news was received that the fleet had put to sea on the 23rd and much was expected of it, but it returned to Port Arthur the same day, having refused battle to the Japanese fleet. On the night of the 27th/28th June

the Commander-in-Chief telegraphed to the Emperor that the Japanese were taking the offensive all along the line with eight to nine divisions and several reserve brigades. He ordered three regiments and three batteries to be detached from Count Keller's force and to be sent by forced marches to Hai-cheng; he himself left Hai-cheng at dawn on the 28th with reinforcements for Hsi-mu-cheng.

By the evening of the 27th the whole of the 31st Division had arrived, and the 9th Division began arriving on the 28th.

June. *The approximate distribution of the Russian army on the 28th June is given in the Appendix,* which may be summarized as follows:—*

Southern Group.—In the immediate vicinity of Kai-ping, with a detachment under General Mishchenko at Tang-chih, Lieut.-General Stakelberg commanding:—

6,400 sabres,
30,000 bayonets,
134 guns,
1 engineer battalion

Ta-shih-chiao.—Ying-kou—Hai-cheng, Lieut.-General Zaru-baiev commanding:—

870 sabres,
26,400 bayonets,
160 guns,
1 engineer battalion.

Hsi-mu-cheng, Lieut.-General Zasulich commanding:—

1,740 sabres,
10,500 bayonets,
46 guns.

Nine battalions and twenty-four guns were approaching Hai-cheng by forced march from the Eastern Detachment.

General Kuropatkin was in supreme command, and was himself at Hsi-mu-cheng. The Russian troops in the Southern Group, without counting the reinforcements coming up from the Eastern Detachment, amounted to:—

9,010 sabres,
66,900 bayonets,
340 guns,
2 engineer battalions,

but they were dispersed, and not within real supporting distance of each other.

Eastern Group.—Along the Fen-shui Ling crests to Hsi-ho-yen, Generals Keller and Rennenkampf:—

3,600 sabres,
9,800 bayonets,
50 guns,
1 engineer battalion.

* See page 54.

Central Group.—Liao-yang—Mukden and east and west of those towns :—

3,000 sabres,
8,000 bayonets,
14 guns,
1 engineer battalion.

The troops at Port Arthur and Vladivostok were the same as on the 21st June.

Operations of the 1st Siberian Army Corps.—General **30th Ju**
Samsonov and the cavalry under his command continued skirmishing with the Japanese till the evening of the 30th June. The result of this skirmishing, which could hardly be called more than reconnaissance fighting, was to establish the fact that the Japanese were making no serious advance beyond Hsiung-yueh-cheng, and that their outposts were about 6 miles north of that place, extending from the sea on the left to about 24 miles east of Hsiung-yueh-cheng on the right, and that all the passes were held by them in strength. The 1st July passed quietly. General Samsonov made reconnaissances on the 2nd and 3rd, and reported no change, but on the 4th his advanced **4th July** troops reported that the Japanese forces in their front seemed to be increasing in strength. On the 5th July the Russian cavalry was very active, but was checked by the Japanese who advanced slightly all along the line.

On the 6th July the Japanese commenced offensive movement **6th July** against Kai-ping from the south and south-east, and by the evening of the 7th were within 5 miles of the Russian main position; on the 8th their offensive was continued combined with a turning movement to the east, their strength, according to Russian sources, being two divisions of infantry and a brigade of cavalry.

On the 9th July General Stakelberg ordered Kai-ping to **9th July** be evacuated, as the enemy had been largely reinforced, his numbers being estimated at four divisions of infantry and a brigade of cavalry. The evacuation of Kai-ping was carried out in perfect order. General Stakelberg returned his losses on the 9th as 1 officer killed, 5 officers wounded, and 200 men killed and wounded.

The Japanese occupied Kai-ping, and by the evening of the 9th July had their outposts holding the hills north of the town, but they did not descend into the valley beyond them. On the 10th July they contented themselves with establishing them- **10th Jul** selves in Kai-ping, and pushing out patrols to Ta-shih-chiao.

Russian reconnaissances on the 10th showed that the Japanese were strongly fortifying the hills just north of Kai-ping. On the 11th the Japanese pushed their outposts northwards from Kai-ping and occupied a line 8 miles north of that place; one of their patrols got to within 5 miles of Ying-kou on this day.

19th From the 12th to the 19th July there was constant skirmishing and reconnoitring on both sides, with trifling losses, but the Japanese gradually advanced northwards.

On the 15th it was discovered that they were fortifying a position for a large force some ten miles north of Kai-ping, their outposts being about 5 miles nearer Ta-shih-chiao.

June. *Operations of General Mishchenko round Tang-chih.*—On the 27th June General Mishchenko fought a successful action with the Japanese south of Tang-chih, losing about 50 men killed and wounded. There was daily skirmishing between his advanced troops and the Japanese. On the 7th July his patrols established the presence of a strong hostile force, estimated at one and a half divisions of infantry, in the neighbourhood of the Chi-pan Ling.

July. On the 9th July the enemy commenced a half-hearted advance against Tang-chih, but was checked by the Russians, who lost 4 men killed, 2 officers and 15 men wounded. There was daily skirmishing from the 9th with quite unimportant losses on either side.

July. On the 15th July General Mishchenko made a personal reconnaissance with eight squadrons, six companies and six guns south-east of Tang-chih, advancing about 10 miles before he met with any force of the enemy. The small Japanese post at Miao-kou was pushed aside, and the Russians advanced about 10 miles further before they met any hostile force strong enough to stop them. This reconnaissance returned in the evening, having established the fact that there was no important hostile force within 20 miles of Tang-chih. From the 16th to the 19th there were daily exchanges of shots between the patrols on either side, but nothing worthy of record occurred.

June. *Operations in the neighbourhood of Hsi-mu-cheng.*—On the 30th June the Japanese pushed back the Russians in the vicinity of Hsi-mu-cheng and established their advanced posts somewhat further to the west. The first nine days of July saw daily skirmishes between the advanced posts, the most important being on the 3rd, when the Russians lost 27 men killed and wounded. There were no changes in this rayon up till the

July. evening of the 19th, but there was daily skirmishing with trivial losses on either side.

June. *General Keller's Operations.*—General Keller, retiring from the Mo-tien Ling, lost 146 men killed and wounded on the 29th June. On the 1st July the three regiments and three batteries which he had detached to Hai-cheng passed through Liao-yang on their way to rejoin his head-quarters. On the 3rd July the Eastern Detachment was concentrated near Lien-shan-kuan; by this date all the passes over the Fen-shui Ling range were in the hands of the Japanese. On the 4th July General Keller made a reconnaissance in force, but was rather severely handled by the enemy, losing 300 killed and wounded.

After the unsuccessful issue of the reconnaissance of the 4th July, General Keller retired to a position in the neighbourhood of Lang-tzu-shan, which he fortified. On the 10th July the Japanese advanced troops appeared in the valley of the Lan. Owing to the constant increase of the enemy's troops in his front, General Keller, on the 16th July, decided to make a reconnaissance in force from his fortified position at Lang-tzu-shan, to find out the strength and intentions of the enemy, who were apparently advancing in force from Lang-tzu-shan. Accordingly, on the night of the 16th/17th July, he advanced in three columns. At first he pushed back the Japanese, but in the early hours of the 17th was himself attacked by the Japanese, and forced to retire to Lang-tzu-shan. His retirement was officially described as being in perfect order, though unofficial reports stated that it was of the nature of a rout. His losses were returned as 150 killed, 957 wounded, and 102 missing, these numbers included 7 officers killed, 22 wounded, and 1 missing.

Operations of Generals Rennenkampf and Lubavin.—On the 27th and 28th June General Rennenkampf was engaged in the vicinity of Sai-ma-chi, but was forced to retire to the Fen-shui Ling, north-east of Sai-ma-chi; here he apparently divided his force, sending a portion under command of General Lubavin to Hsi-ho-yen, while he himself remained with the rest in possession of the Fen-shui Ling. On the 30th he was forced to evacuate the pass and retire to Hsiao-ssu-erh, on the River Tai-tzu, where he concentrated his detachment on the 1st July. The same day, the 1st July, General Lubavin advanced from Hsi-ho-yen, and was engaged with the enemy near the Fen-shui Ling, but had to retire, on the 2nd he evacuated Hsi-ho-yen, and retired to Ku-chia-tzu. On the 5th July the Japanese were in possession of Yü-shu-lin-tzu, close to Ku-chia-tzu, with their main body near the Fen-shui Ling, which they were busily engaged in fortifying; on the 8th they occupied Hsi-ho-yen.

On the 4th July, General Rennenkampf advanced from Hsiao-ssu-erh towards Sai-ma-chi with a small detachment, but was forced to retire again. On the 10th July his detachment was concentrated at Mi-tzu, on the River Tai-tzu, from which place he advanced on the 13th July against Fan-chia-pu-tzu, to operate against the communications of the Japanese column advancing on the Sai-ma-chi—Hsi-ho-yen—Liao-yang road, he occupied the pass near Fan-chia-pu-tzu, but was driven back, he himself being wounded, as well as about twenty men of his force; in addition he lost 1 officer and 5 men killed.

On the 17th, 18th, and 19th, there was constant skirmishing in front of General Lubavin, who had again occupied Hsi-ho-yen, having received infantry reinforcements from Liao-yang. On the 17th and 18th he maintained himself at Hsi-ho-yen, but on the 19th had to evacuate that place, and retired again to Ku-chia-tzu.

Tai-tzu in the east to Ta-shih-chiao in the south-west, fronting the Japanese who were in possession of all the passes over the Fen-shui Ling range. This distribution of the army was strategically unsound as it was fronting parallel to its line of communication. To summarize, taking battalions and squadrons at 700 and 120 respectively, the various groups were as follows :—

Southern Group.—Ta-shih-chiao and neighbourhood, Lieut.-General Zarubaiev commanding :—

7,680 sabres,
28,000 bayonets,
156 guns,
2 engineer battalions.

Hai-cheng—Hsi-mu-cheng, Lieut.-General Zasulich commanding :—

1,440 sabres,
38,500 bayonets,
194 guns,
2 engineer battalions.

Total :—

9,120 sabres,
66,500 bayonets,
350 guns,
4 battalions of engineers.

Eastern Group.—Cavalry detachment retiring from Hsi-ho-yen or thereabouts, Major-General Lubavin commanding :—

2,280 sabres,
12,600 bayonets,
76 guns.

Eastern Detachment, Lang-tzu-shan, Lieut.-General Count Keller commanding—

720 sabres,
17,500 bayonets,
56 guns,
1 engineer battalion.

Total :—

3,000 sabres,
30,100 bayonets,
132 guns,
1 engineer battalion.

Central group or reserve at Liao-yang and neighbourhood :—

2,520 sabres,
5,600 bayonets,
32 guns,
1 battalion of engineers.

Grand total of field army :—

14,640 sabres,
102,200 bayonets,
514 guns,
6 engineer battalions.

In addition to the above troops there were the independent detachment of Lieut.-Colonel Madridov and various garrisons north of Liao-yang.

The garrison of Port Arthur and the Ussuri Army were the same as on the 28th June, so far as the units composing them were concerned, but their numerical strength must have been considerably less.

15 July. *Operations round Ta-shih-chiao.*—On the 20th, 21st, and 22nd July there was daily reconnoitring and skirmishing in the vicinity of Ta-shih-chiao all along the front of the united 1st and 4th Siberian Army Corps, of which Lieut.-General Zarubaiev, being senior to Baron Stakelberg, was in command.

The troops at General Zarubaiev's disposal were, so far as I could ascertain: the cavalry of Mishchenko and Kossakovski (late Samsonov) about 50 squadrons and 24 guns, the 1st Siberian Army Corps, 6 squadrons, 24 battalions of infantry, 1 of engineers, and 64 guns, and the 4th Siberian Army Corps, 6 squadrons, 24 battalions of infantry and 1 of engineers, and about 96 guns, or a total of, say—6,800 sabres, 32,000 bayonets, 184 guns, and 2 battalions of engineers; possibly, however, he did not have so many guns at his disposal.

These reconnaissances showed that the Japanese had strongly fortified the hills north of Kai-ping, and that they were constantly re-inforcing their advanced posts, which were being continually extended towards the east, very few Japanese troops could be seen in the vicinity of Tang-chih.

16 July. *Battle of Ta-shih-chiao.*—At 5.30 a.m. on the 23rd July the Japanese advanced to the attack all along the front of the united 1st and 4th Siberian Army Corps. The advanced troops of the 1st Corps were the first engaged, they withdrew gradually to the prepared position south of Ta-shih-chiao; the Japanese were estimated to have two divisions of infantry in their front line. About 9.30 a.m. the advanced troops of the 4th Corps became engaged, and General Zarubaiev directed that the army should concentrate on the position prepared south of Ta-shih-chiao. The Japanese gained ground all along the front and actually drove the Russians out of Tang-chih, which, however, was re-occupied at nightfall. The official account stated that the Russians had only trifling casualties, and that they maintained their positions all along the line. However, I was passing through Ta-shih-chiao on the afternoon of the 23rd and the opinion there was that the Japanese had scored a distinct success against the 1st Army Corps which had been forced to abandon an important position. This position, however, it was hoped would be retaken the following day when the whole army would be engaged, which was not the case on the 23rd.

17 July. The night of the 23rd/24th July passed quietly. The Japanese renewed the attack at 5 a.m. on the 24th with an estimated force of four infantry divisions and a brigade of cavalry. Their main efforts were directed against the Russian

left, held by the 4th Army Corps. The result of the day's fighting was that the 1st Army Corps maintained its position and even gained ground, whereas the 4th Army Corps was pushed back somewhat, though by evening it was still in possession of the main position. During the night General Zarubaiev ordered the position to be evacuated, and the two corps were directed to vacate Ta-shih-chiao and retire on Hai-cheng.

This order was most unexpected and caused a good deal of discontent, as the troops did not consider themselves beaten, and on the evening of the 24th general satisfaction was expressed as to the result of the day's fighting. A high Russian official at Ying-kou told me that the battle of the 24th was a Russian success, and was quite satisfied that the Japanese had been checked. This spirit of optimism, however, was not justified, as the 4th Army Corps had been severely handled, all reserves had been used up, the Japanese advance had not really been stopped, and an important turning movement in the hills east of the position was in progress, and there can be no doubt that General Zarubaiev's decision was correct.

The Russian losses were not stated officially, but they were said not to have been heavy, and the retirement was described as being in perfect order. This may have been true with regard to the 1st Army Corps, which was engaged with an inferior Japanese force, and had but small losses, but the 4th Army Corps was distinctly disorganized, and its retirement was in anything but order; this statement I make from personal observation, as I saw the retirement of the 4th Army Corps from Ta-shih-chiao which could not be described as orderly.

The 4th Army Corps must have had severe losses, I personally saw 800 wounded, and was told by a staff officer that one battalion of the Barnaul Regiment had lost 40 per cent. of its total effective; taking everything into consideration, I do not think the Russians could have lost less than 2,000 men killed, wounded, and missing.

The 1st Army Corps covered the retirement of the 4th; there was no pursuit, the rear guard fighting being confined to long-range artillery firing. About 1 p.m. shells began to fall in Ta-shih-chiao station, and at 2 p.m. the Japanese were in possession of the place. By nightfall a division had been pushed north of the station, where the Japanese placed outposts towards Hai-cheng and proceeded to fortify themselves.

Occupation of Ying-kou by the Japanese.—The Russians evacuated Ying-kou about midnight on the night of the 24th/25th July. The evacuation in contradistinction to what was going on at Ta-shih-chiao was in perfect order, all rolling stock was removed, points were taken up, and everything worked smoothly. The Japanese occupied the town on the evening of the 25th July with a small mounted detachment of about 50 men.

No rolling stock was left at Ta-shih-chiao, but a certain amount of commissariat supplies had to be abandoned both at Ying-kou and Ta-shih-chiao.

21st July. *Operations near Hsi-mu-cheng.*—On the 21st and 22nd July there was fighting near the Han Ling due east of Hsi-mu-cheng, ending with the occupation of the pass on the evening of the 22nd by the Japanese.

On the 24th July the enemy had concentrated not less than two divisions in the neighbourhood of the Ta Ling, but there was no real advance.

27th July. On the 27th July the 1st and 4th Siberian Army Corps were concentrated at Hai-cheng with the cavalry some 12 miles south of that place.

On the 30th July the Japanese began to take the offensive against Hai-cheng from the east and south. On the 31st the 2nd Corps was defeated at Hsi-mu-cheng, losing eight guns and retired to Hai-cheng. The same day the cavalry south of the town was driven in and preparations were begun for the evacuation of Hai-cheng and retirement towards the north.

By the evening of the 31st July the 1st, 2nd, and 4th Siberian Army Corps were concentrated at Hai-cheng or a little north of it, with outposts in touch with the Japanese south and east of that place, but the retirement on An-shan-tien had not actually begun.

10th July. *Movements of Troops towards An-ping.*—On the 20th July the staff of the XVIIth Army Corps arrived at Liao-yang; the same day the Daghestan Cavalry Regiment was sent out to the east to strengthen General Lubavin's force.

On the 21st orders were issued for the XVIIth Army Corps to take over the duties at Liao-yang from the Xth, which was to go to An-ping where it was directed to concentrate and take the offensive in the direction of Hsi-ho-yen with the view of driving back the enemy who was developing a turning movement against Liao-yang from that direction.

On the 23rd the Xth Army Corps left Liao-yang for the east, as also the Commander-in-Chief who had returned from Mukden on the 21st, where he had gone to confer with the Viceroy.

13rd July. On the 23rd General Keller reported that the Japanese troops in front of him were apparently weaker and that there seemed to be a considerable concentration towards Hsi-ho-yen.

On the 26th July the XVIIth Corps had all arrived and was being concentrated at Liao-yang with orders to await developments there.

On the 26th the Commander-in-Chief returned from the east and started for Hai-cheng on the 27th.

The Xth Corps was at 'lang-chia-pu on the 26th, where it had concentrated all its scattered units with the exception

of three batteries which were still detached to the 2nd Siberian Army Corps at Hsi-mu-cheng.

On the 29th the Xth Corps moved to the neighbourhood of Yü-shu-lin-tzu with Corps Head-Quarters at Liu-chia-ling. On the 30th a strong reconnaissance of Daghestan Cossacks was sent out, who returned in the evening and reported the country clear of Japanese for miles. The Tambov Regiment crossed the River Hsi, about two miles beyond Yü-shu-lin-tzu, and bivouacked on the right bank; orders were issued for an advance towards Hsi-ho-yen to commence on the 31st. 29th Jul

Action of 31st July.—On the 31st July the Japanese commenced a general offensive along the whole front. They drove the 2nd Siberian Army Corps from Hsi-mu-cheng as already mentioned, and attacked the Eastern Detachment and the Xth Army Corps at Lang-tzu-shan and Liu-chia-ling. 31st Jul

The following is a short description of the battle against the Xth Army Corps so far as I could follow it.*

As mentioned above the Daghestan Cossacks on the 30th reported that there were no Japanese in the neighbourhood, and relying on this report the Tambov Regiment remained in bivouac on the right bank of the river; a couple of batteries were nearly sent across too, but at the last moment the order regarding them was cancelled. The Japanese surprised the Tambov Regiment in its bivouac at dawn, the fighting being severe and the Russian losses heavy. The Japanese took the Russian camp, which, in spite of constant efforts to recapture it, remained in their hands throughout the day.†

At 6.30 a.m. the Russians, from their artillery position on the left bank of the river, began shelling the Japanese on the lower slopes of the hills near the bivouac of the Tambov Regiment. At 7 a.m. the Japanese replied from the high hill opposite at a range of about four thousand yards. At 8.5 a.m. the Japanese guns began firing high-explosive shell which, however, had no effect. At 8.10 a.m. the Japanese turned their guns on to the hill just south of the bivouac of the Tambov Regiment, which they almost immediately occupied, driving back the Russian infantry. The Russian artillery, for some reason, did not fire during the Japanese attack on this hill. At 8.20 a.m., however, they opened upon the above-mentioned hill, which was now occupied by the enemy, and it was retaken, but the Russians could not advance beyond it.

The Japanese guns fired a few high-explosive shells at 8.30 a.m., and then ceased fire. The Russian artillery continued firing intermittently. At 9.15 a.m. the ammunition column arrived. All this time the Tambov Regiment was unsupported on the right bank of the river except by the fire of the Russian guns on the left bank. At 9.20 a.m. a battalion was sent across

* See Map 91.

† See Report, page 210, Vol. I., on the action of the 12th Japanese Division on the 31st July.

to reinforce the Tambov Regiment, as well as two squadrons of cavalry, and the line was extended to the left. At 9.45 a.m. the Japanese reinforced and prolonged their right. From 9.45 a.m. to 10.10 a.m. there was a pause, at which time a Japanese battery came into action on the left bank of the river about four thousand yards to the right of the Russian guns, which it took in enfilade. At the same time the Japanese infantry attacked the Russians across the river and drove them back.

At 10.15 a.m. the Russian and Japanese guns fired at each other for ten minutes, with the result that the guns on the high hill on the right bank of the river ceased fire.

At 11.10 a.m. a Russian battalion arrived and took post under cover of the hill on which the Russians guns were posted. At 11.30 a.m. the Russian artillery opened upon the Japanese infantry in the low hills on the right bank of the river. At 11.45 the Russians, on the right bank, having been reinforced by a battalion took the offensive, and with the assistance of artillery fire from the left bank, drove back the Japanese and occupied at about 1 p.m. the detached hill to the right front of the Russian artillery position. At 1.45 p.m. the battalion, which had occupied the hill, was driven back by Japanese long-range fire from a hill on the left bank of the river, and at 2.5 p.m. the hill was again occupied by the Japanese. The Japanese artillery kept up a fairly heavy fire on the Russian guns for about an hour, but without much result. At 3 p.m. a general Japanese offensive was begun; the advance was slow, combined with a turning movement round the Russian left flank. At 3.15 p.m. the Russian reserves began to retire to the Yü shu-lin-tzu Pass, there being rumours that the Japanese were developing a turning movement to the south.

At 6.5 p.m. the last Russian troops crossed the river and the Russian artillery began to leave the position, which was finally abandoned at night, and a fresh position taken up on the Yü-shu-lin-tzu Pass.

This action was only an incident in the general Japanese offensive against the Russians in the east, of which the Xth Army Corps was the extreme left flank and the Eastern Detachment the right. The Japanese did not employ any very large force at Liu-chia-ling, but directed their main energies to pushing in a wedge between the two Russian wings. It was in consequence of this danger that the Russians kept so many troops in reserve, viz., five regiments and nine batteries. Six of these batteries were close to Liu-chia-ling all day, but were not employed, as the artillery general stated that he could not find room for them; personally, I thought room could easily have been found for thirty-two more guns, but it would have been very difficult to withdraw them, which was probably the reason that they were not employed. Five regiments and three batteries were west of the Lan River all

day* ; two of these regiments crossed at nightfall, one remaining at Ku-chia-tzu and the other taking post in the hills south of that place. Unless it was that news of a Japanese turning movement was received by the Staff, I could see no reason for evacuating the position ; the Japanese made no serious attack, and there were plenty of fresh troops available. The general officer commanding was not on the field all day. I never saw an army corps staff officer on the field, the result being that there was nobody to give orders, and the subordinate commanders acted without any supervision. The Russian guns were in gun pits, in half batteries, working independently, and no concentration of fire was attempted. I never saw more than eight guns firing at the same target. The Japanese guns were very hard to locate, while those of the Russians were easily distinguishable by their smoke. The Japanese artillery had very little effect ; though it constantly burst shell in the battery it seemed to be beyond effective shrapnel range, and the high-explosive shell seemed to have no effect. The distance must have been somewhat over 4,000 yards. I was considerably nearer the Japanese guns on the extreme right than the Russian batteries, and only saw one Russian shell go anywhere near the Japanese guns. The artillery general told me next morning that he had never been able to locate properly the hostile guns, which probably accounts for the bad shooting. I do not think that the Russian infantry ever fired beyond 1,000 yards, though two Japanese companies made most successful long-range shooting at a distance of 2,200 yards, and drove back a whole Russian battalion in this manner ; the Russians, however, presented an excellent target, as they were huddled together on the slopes of the hill exposed to the Japanese, of whose existence they seemed to be in ignorance. The Japanese infantry employed independent firing, whereas the Russian infantry seemed to prefer volleys.

Owing to the hilly nature of the country, the infantry when attacking moved anyhow, generally in irregular groups, taking advantage of any cover there might be. The Japanese crossed a fire-swept zone of about two hundred yards by rushes of a few men at a time, and so far as I could see through my glasses, lost very few men in doing so.

Both Japanese and Russians were in khaki blouses, and it was very hard to tell friend from foe. I could not help wondering why the Russians had no system of visual signalling, by which connection might have been kept up between the various units. I saw a telescope being used for the first time in Manchuria.

The European troops seemed unable to bear the heat, and the men were exhausted before they reached the battlefield, and this in spite of the fact that their kits were being carried for them, and that water carried on mules accompanied each unit.

* See Map 89.

Though only one regiment had had any serious losses, there was a decided loss of *moral* noticeable throughout the whole corps.

The impression made on my mind by the fighting on the 31st was that field artillery should be largely exchanged for mountain guns when fighting in the hills, and that large forces are too unwieldly for hill warfare; several small columns working on parallel lines, each with its own artillery distributed fanwise from some central point, would be able to effect a great deal more than a large force closely concentrated.

On the 31st July the Japanese attacked the Eastern Detachment at Lang-tzu-shan, but were checked. Lieut.-General Count Keller was killed during the day.

31st July. *Distribution of Russian Troops on 31st July.*—The approximate position of the Russian troops on the evening of the 31st July is given in the Appendix, which is summarized below; the average strength of battalions and squadrons has been taken as 600 and 100 respectively:—

Southern Group in the vicinity of Hai-cheng, General Kuropatkin commanding:—

7,700 sabres,
45,600 bayonets,
306 guns,
3 engineer battalions.

Eastern Group—

4,300 sabres,
43,200 bayonets,
220 guns,
3 engineer battalions.

Liao-yang—

1,500 sabres,
2,400 bayonets,
1 engineer battalion.

Mukden and hills east of it—

1,600 sabres,
9,600 bayonets,
42 guns.

During the night of the 31st July/1st August the rear guard of the Xth Army Corps crossed the Lan.

2nd Aug. The troops at Hai-cheng began to retire on the 2nd August, by which date the Xth Army Corps was back at An-ping, where it was joined by one division of the XVIIth Army Corps (the 3rd); the other division (the 35th) of the XVIIth Army Corps was split up; half was at Mukden and half at An-shan-tien.

4th Aug. On the 4th August orders were issued for all troops east of Liao-yang to be formed into an Eastern Army under the orders of General Bilderling, commanding the XVIIth Army Corps.

On the 8th August, orders were issued for Liao-yang to be **8th A** evacuated, and all women and children began to leave.

From the 26th July, except the 51st and 52nd Dragoons, nothing but drafts and stores came in by railway; most of the supplies, &c., were unloaded at Yen-tai, nothing coming on to Liao-yang. On the 15th August, the 5th Siberian Army Corps began to arrive at Mukden.

Beyond outpost and rear guard skirmishing there was nothing of importance in the way of fighting between the 31st July and the 15th August, the Japanese apparently concentrating and **15th A** organizing before advancing on Liao-yang.

Distribution of Russian Troops on 15th August.—The approximate position of the Russian troops is given in the Appendix, which summarized is as follows:—

Main Army.—An-shan-tien—Liao-yang. Commanding, General Kuropatkin:—

9,800 sabres,
52,800 bayonets,
310 guns,
4 engineer battalions.

Eastern Army.—An-ping-Lang-tzu-shan or neighbourhood. Commanding, General Bilderling:—

4,300 sabres,
39,000 bayonets,
236 guns,
3 engineer battalions.

Mukden.—Hsing-ching Ting—

1,600 sabres,
9,000 bayonets,
26 guns.

Total Field Army available south of Mukden.—

15,700 sabres,
110,800 bayonets,
572 guns,
7 engineer battalions.

APPENDIX.

THE APPROXIMATE DISTRIBUTION OF RUSSIAN TROOPS
ON VARIOUS DATES.*

25th April 1904.

USSURI ARMY, Head-Quarters, Vladivostok.—Commanding,
LIEUT.-GENERAL LENEVICH.

1st Nerchinsk Cossack Regiment—6 squadrons.
 Ussuri Cossack Regiment—3 squadrons.
 Amur Cossack Division—3 squadrons.
 Depôt, Primorsk Dragoon Regiment—2 squadrons.
 2nd East Siberian Rifle Division (less 5th Regiment)—
 9 battalions, 4 batteries.
 8th East Siberian Rifle Division—12 battalions, 3 batteries.
 East Siberian Mountain Artillery—1 battery.
 East Siberian Engineers (4 companies)—1 battalion.
 Volunteers—1 battalion.
 Being mobilized—2 East Siberian howitzer batteries.
 Nikolaievsk Fortress Infantry—1 battalion.
 Vladivostok Fortress Artillery—4 battalions.
 Possiet Fortress Artillery Detachment.
 Nikolaievsk Mining Company.
 Vladivostok Mining Company.
 East Siberian Mining Company.
 Novokievskoe Mining Company.
 Vladivostok Telegraph Company.
 Depôt battalions, East Siberian Rifle Divisions — 4 bat-
 talions.

Total field troops—12 squadrons, 22 battalions, 64 field
 guns, 4 companies of engineers.

Fortress and depôt troops as above.

MANCHURIAN ARMY, Head-Quarters, Liao-yang.—Com-
manding, GENERAL KUROPATKIN.

Port Arthur fortified rayon, Head-Quarters, *Port Arthur*.—
 Commanding, *Lieut.-General Stessel*.

4th East Siberian Rifle Division—12 battalions, 4 batteries.
 7th East Siberian Rifle Division—12 battalions, 3 batteries.†
 Volunteers—1 battalion.
 Port Arthur Fortress Artillery—3 battalions.

* See Map 89.

† One of these is a 6-gun battery.

1 balloon section.

Port Arthur Mining Company.

Port Arthur Submarine Mining Company.

Port Arthur Telegraph Detachment.

Kuan-tung Sapper Company.

Depôt battalions, East Siberian Rifle Divisions—2 battalions.

Total field troops—squadrons, nil, 25 battalions, 54 field guns.

Fortress and depôt troops as above.

Along the coast from Port Arthur to Ying-kou.

Primorsk Dragoons—6 squadrons.

Ying-kou.—Commanding, *Major-General Kondratovich.*

9th East Siberian Rifle Division—12 battalions, 4 batteries.

5th East Siberian Rifle Regiment—3 battalions.

Detachment, fortress artillery.

Total—15 battalions, 32 guns.

Advanced Guard on the Ya-lu.—Commanding, *Lieut.-General Zasulich.*

Cavalry.—Commanding, *Major-General Mishchenko.*

1st Argun Cossack Regiment—6 squadrons.

1st Chita Cossack Regiment—6 squadrons.

1st Verkhne-Udinsk Cossack Regiment—6 squadrons.

Ussuri Cossack Regiment—3 squadrons.

Cossack Horse Artillery—2 batteries.

Major-General Mishchenko watched the coast from Port Arthur to the Ya-lu and the line of that river.

Infantry and Artillery—

3rd East Siberian Rifle Division—12 battalions, 4 batteries.

6th East Siberian Rifle Division—9 battalions, 3 batteries.

(1 regiment and 1 battery not arrived.)

East Siberian Mountain Artillery—1 battery.

Total, Advanced Guard — 21 squadrons, 21 battalions, 76 guns.

Ta-shih-chiao—Hai-cheng, Head-Quarters 1st Siberian Army Corps.—Commanding, *Lieut.-General Baron Stakelberg.*

1st East Siberian Rifle Division—12 battalions, 4 batteries.

An-shan-tien.

5th East Siberian Rifle Division—12 battalions, 1 battery.

Liao-yang, Head-Quarters of the Manchurian Army and of the
2nd Siberian Army Corps.

2nd Brigade, 31st Division—8 battalions, 3 batteries.

2nd Brigade, 35th Division—8 battalions, 3 batteries.

5th East Siberian Rifle Division—6 battalions, 1 battery.

Trans-Baikal Cossacks—18 squadrons.

Cossack Horse Artillery—2 batteries.

East Siberian Engineers—1 battalion.

Various drafts and details.

Total—18 squadrons, 19 battalions, 1 battalion of engineers,
68 guns.

Hein-min-tun and along the Liao River.

Amur Cossacks—6 squadrons.

Frontier Guard—6 squadrons.

Mukden.

Frontier Guard and details.

Kirin.

6th East Siberian Rifle Division—3 battalions, 1 battery.

Position unknown.

5th East Siberian Rifle Division—3 battalions, 2 batteries.

Trans-Baikal Cossacks—6 squadrons.

East Siberian Engineers—1 battalion.

Mobilized in Trans-Baikalia.

1st Siberian (Reserve) Division—16 active battalions,
8 reserve and dépôt battalions.

Employed on the railway and at other places, stations
unknown.

Ussuri Railway Brigade.

Trans-Amur Railway Brigade.

Trans-Baikal Cossack Infantry—3 battalions.

Dépôt battalions, East Siberian Rifle Divisions—3 bat-
talions.

East Siberian Engineers—1 battalion.

3rd Verkhne-Udinsk Cossacks—6 squadrons.

Frontier Guard cavalry, artillery, and infantry.

16th May 1904.

USSURI ARMY.—Commanding, **LIEUT.-GENERAL LENEVICH.**

As on 25th April, with the exception that the two East Siberian howitzer batteries are now mobilized.

MANCHURIAN ARMY.—Commanding, **GENERAL KUROPATKIN.**

Port Arthur and Kuan-tung Peninsula.—Commanding, *Lieut.-General Stessel.*

4th East Siberian Rifle Division—12 battalions, 4 batteries.

9th East Siberian Rifle Division—12 battalions, 3 batteries.*

2nd East Siberian Rifle Division—3 battalions.

Volunteers—1 battalion.

57-mm. guns—1 battery.

Sortie batteries—1 battery.

1st Verkhne-Udinsk Cossack Regiment—2 squadrons.

Port Arthur Fortress Artillery—3 battalions.

1 balloon section.

Port Arthur Mining Company.

Port Arthur Submarine Mining Company.

Port Arthur telegraph detachment.

Kuan-tung Sapper Company.

Total field troops—2 squadrons, 28 battalions, 66 guns.

Kai-ping—Wa-fang-kou.—Commanding, *Major-General Samsonov.*

Primorsk Dragoons—6 squadrons.

Frontier Guard—6 squadrons.

2nd Trans-Baikal Cossack Horse Artillery Battery—6 guns.

Total—12 squadrons, 6 guns.

Ta-shih-chiao—Ying-kou.

9th East Siberian Rifle Division—12 battalions, 4 batteries.

Hai-cheng, Head-Quarters, 1st Siberian Army Corps.—
Commanding, *Lieut.-General Baron Stakelberg.*

1st East Siberian Rifle Division—12 battalions, 4 batteries.

Total, 1st Army Corps—24 battalions, 64 guns.

* One of these is a 6-gun sortie battery.

Hsin-min-tun, and along the Liao River.

Frontier Guard—6 squadrons.

Amur Cossack Regiment—5 squadrons.

Liao-yang, Head-Quarters of the Manchurian Army. Head-Quarters of the 2nd Siberian Army Corps.—Commanding, *Lieut.-General Zasulich*.

2nd Brigade, 31st Division—8 battalions, 3 batteries.

2nd Brigade, 35th Division—8 battalions, 3 batteries.

5th East Siberian Rifle Division—12 battalions, 4 batteries.

4th Trans-Baikal Cossack Horse Artillery battery.

1st Siberian (Reserve) Division—4 battalions.

2nd Siberian (Reserve) Division—4 battalions.

East Siberian Engineers—2 battalions.

2nd Verkhne-Udinsk Cossack Regiment—6 squadrons.*

2nd Chita Cossack Regiment—1 squadron.

Amur Cossack Regiment—1 squadron.

Total—8 squadrons, 36 battalions, 2 battalions of engineers, 86 guns.

North of *Feng-huang-cheng*, *Eastern Detachment*.—Commanding, *Lieut.-General Count Keller*.

3rd East Siberian Rifle Division.—12 battalions, 4 batteries.

6th East Siberian Rifle Division.—9 battalions, 3 batteries.

East Siberian Mounted Artillery—1 battery.

2nd Chita Cossack Regiment—5 squadrons.

Total—21 battalions, 5 squadrons, 42 guns.

In neighbourhood of *Sai-mai-chi* and north of it.—Commanding, *Major-General Rennenkampf*.

1st Argun Cossack Regiment—6 squadrons.

2nd Argun Cossack Regiment—6 squadrons.

2nd Nerchinsk Cossack Regiment—6 squadrons.

3rd Trans-Baikal Cossack Horse-Artillery Battery.

6th East Siberian Rifle Division—3 battalions, 1 battery.

Total—18 squadrons, 3 battalions, 14 guns.

Between *Hai-cheng* and *Hsiu-yen*.—Commanding, *Major-General Mishchenko*.

1st Chita Cossack Regiment—6 squadrons.

1st Verkhne-Udinsk Cossack Regiment—4 squadrons.

1st Trans-Baikal Cossack Horse-Artillery Battery.

Total—10 squadrons, 6 guns.

* This regiment was split up and used for line of communication work between *Liao-yang* and Generals Keller and Rennenkampf in the east, and the troops on the Liao River in the west.

Detachment of Colonel Madridov.

Ussuri Cossacks—3 squadrons.

Mukden.

1st Siberian (Reserve) Division—6 battalions.

Kirin.

1st Siberian (Reserve) Division—3 battalions.

Harbin.

1st Siberian (Reserve) Division—3 battalions.
East Siberian Engineers—1 battalion.

Reinforcements on the railway.

Troops from the Siberian military district.

Employed on the railway and at different stations north of Liao-yang.

Reserve and dépôt battalions 1st Siberian (Reserve) Division
—8 battalions.

Ussuri Railway Brigade.

Trans-Amur Railway Brigade.

Frontier Guard—cavalry, artillery, and infantry.

Trans-Baikal Cossack Infantry—3 battalions.

Dépôt battalions, East Siberian Rifle Divisions—3
battalions.

3rd Verkhne-Udinsk Cossack Regiment—6 squadrons.

Dépôt squadrons, Trans-Baikal Cossacks—9 squadrons.

23rd May 1904.

PORT ARTHUR, *vide* distribution for 16th May 1904.

USSURI ARMY, *vide* distribution for 16th May 1904.

MANCHURIAN ARMY.—Commanding, GENERAL
KUROPATKIN.

Kai-ping.—Commanding, *Major-General Samsonov.*

Primorsk Dragoons—6 squadrons.

Frontier Guard—6 squadrons.

2nd Trans-Baikal Cossack Battery.

Total—12 squadrons, 6 guns.

Ying-kou.

36th East Siberian Rifle Regiment.

Ta-shih-chiao—Hai-cheng.—Commanding, *Lieut.-General Baron Stakelberg.*

1st East Siberian Rifle Division—12 battalions, 4 batteries.

9th East Siberian Rifle Division—9 battalions, 4 batteries.

Total—21 battalions, 64 guns.

Hsiu-yen.—Commanding, *Major-General Mishchenko.*

1st Chita Cossack Regiment—6 squadrons.

1st Verkhne-Udinsk Cossack Regiment—4 squadrons.

1st Trans-Baikal Cossack Battery—6 guns.

Total—10 squadrons, 6 guns.

Sai-ma-chi.—Commanding, *Major-General Rennenkampf.*

1st Argun Cossack Regiment—6 squadrons.

2nd Argun Cossack Regiment—6 squadrons.

2nd Nerchinsk Cossack Regiments—6 squadrons.

3rd Trans-Baikal Cossack Battery.

6th East Siberian Rifle Division—3 battalions, 1 battery.

Total—18 squadrons, 3 battalions, 14 guns.

East of Mukden near Hsing-ching Ting.—Commanding, *Lieut.-Colonel Madridov.*

Ussuri Cossack Regiment—3 squadrons.

Amur Cossack Regiment—2 squadrons.

Total—5 squadrons.

Along the Fen-shui-Ling crests (Eastern Detachment).—
Commanding, *Lieut.-General Count Keller.*

2nd Chita Cossack Regiment—5 squadrons.

2nd Verkhne-Udinsk Cossack Regiment—4 squadrons.

3rd East Siberian Rifle Division—12 battalions, 4 batteries.

6th East Siberian Rifle Division—9 battalions, 3 batteries.

East Siberian Mountain Artillery—1 battery.

Total—9 squadrons, 21 battalions, 42 guns.

Liao-yang, Head-Quarters of the Manchurian Army.

2nd Siberian Army Corps.—Commanding, *Lieut.-General Zasulich.*

5th East Siberian Rifle Division—12 battalions, 4 batteries.

2nd Brigade, 31st Division—8 battalions, 3 batteries.

2nd Brigade, 35th Division—8 battalions, 3 batteries.

4th Siberian Army Corps.

2nd Siberian (Reserve) Division—12 battalions.

2nd Chita Cossack Regiment—1 squadron.

2nd Verkhne-Udinsk Cossack Regiment—2 squadrons.
Amur Cossack Regiment—1 squadron.
5th Siberian Cossack Regiment—6 squadrons.
7th Siberian Cossack Regiment—6 squadrons.
4th Trans-Baikal Cossack Battery.
1st Siberian Reserve Division—4 battalions.
East Siberian Engineers—2 battalions.
Total—16 squadrons, 44 battalions, 86 guns, 2 battalions
of engineers.

In movement on the railway.

Rest of troops from Siberian military district.
Orenburg Cossacks—4 regiments.

Mukden.

1st Siberian (Reserve) Division—6 battalions.

Kirin.

1st Siberian (Reserve) Division—3 battalions.

Harbin.

1st Siberian (Reserve) Division—3 battalions.
East Siberian Howitzer Artillery—2 batteries, probably
arrived from Vladivostok.
East Siberian Engineers—1 battalion.

*Employed on the railway and at other places, stations
unknown.*

Ussuri Railway Brigade.
Trans-Amur Railway Brigade.
Trans-Baikal Cossack Infantry—3 battalions.
Depôt battalions, East Siberian Rifle Divisions—3 batta-
lions.
Depôt and reserve battalions, 1st Siberian Division—
8 battalions.
3rd Verkhne-Udinsk Cossack Regiment—6 squadrons.
Trans-Baikal Cossacks depôt and reserve squadrons—18
squadrons.
Frontier Guard—cavalry, artillery, and infantry.

Along the Liao River.—Major-General Kossakovski.

Frontier Guard—6 squadrons.
Amur Cossack Regiment—3 squadrons.

1st June 1904.

**USSURI ARMY.—Commanding. LIEUT.-GENERAL
LENEVICH.**

1st Nerchinsk Cossack Regiment—6 squadrons.
6th Siberian Cossack Regiment—6 squadrons.
9th Siberian Cossack Regiment—6 squadrons.
Ussuri Cossack Regiment—3 squadrons.
Amur Cossack Division—3 squadrons.
Depôt, Primorsk Dragoon Regiment—2 squadrons.
2nd East Siberian Rifle Division—9 battalions, 4 batteries.
8th East Siberian Rifle Division—12 battalions, 3 batteries.
East Siberian Mountain Artillery—1 battery.
East Siberian Engineers—1 battalion.
Volunteers—1 battalion.
Depôt battalions, East Siberian Rifle Divisions—4 battalions.
Nikolaievsk Fortress Infantry.
Vladivostok Fortress Artillery.
Possiet Fortress Artillery detachment.
Nikolaievsk Mining Company.
Vladivostok Mining Company.
East Siberian Mining Company.
Novokievskoe Mining Company.
Vladivostok Telegraph Company.

Total field troops—24 squadrons, 22 battalions, 64 guns,
1 battalion of engineers.

**PORT ARTHUR.—Commanding. LIEUT.-GENERAL
STESSEL.**

The same as on 16th May 1904.

**MANCHURIAN ARMY.—Commanding. GENERAL
KUROPATKIN.**

South of Kai-ping.—Commanding. *Major-General Samsonov.*

Primorsk Dragoon Regiment—6 squadrons.
4th Siberian Cossack Regiment—6 squadrons.
8th Siberian Cossack Regiment—6 squadrons.
Frontier Guard—4 squadrons.
2nd Trans-Baikal Cossack Horse Artillery Battery.
Total—22 squadrons, 6 guns.

Kai-ping, Head-Quarters, 1st Siberian Army Corps.—
Commanding. *Lieut.-General Baron Stakelberg.*

1st East Siberian Rifle Division—12 battalions, 4 batteries.
9th East Siberian Rifle Division—9 battalions, 3 batteries.
Total—21 battalions, 56 guns.

Ying-kou.

9th East Siberian Rifle Division—3 battalions, 1 battery.

Marching to Kai-ping.

2nd Siberian (Reserve) Division—16 battalions.

2nd Siberian (Reserve) Artillery Brigade—2 batteries.

Total—16 battalions, 16 guns.

*Hsin-min-tun and along the Liao River.—Commanding,
Major-General Kossakovski.*

Frontier Guard—6 squadrons.

Amur Cossack Regiment—4 squadrons.

*North of Feng-huang-cheng.—Eastern Detachment,
Lieut.-General Count Keller.*

3rd East Siberian Rifle Division—12 battalions, 4 batteries.

6th East Siberian Rifle Division—9 battalions, 3 batteries.

2nd Chita Cossack Regiment—5 squadrons.

3rd Trans-Baikal Cossack Horse Artillery Battery.

Total—5 squadrons, 21 battalions, 54 guns.

*North-west and north-east of Sai-ma-chi.—Commanding,
Major-General Rennenkampf.*

1st Argun Cossack Regiment—6 squadrons.

2nd Argun Cossack Regiment—6 squadrons.

2nd Nerchinsk Cossack Regiment—6 squadrons.

6th East Siberian Rifle Division—3 battalions, 1 battery.

East Siberian Mountain Artillery—1 battery.

Total—18 squadrons, 3 battalions, 16 guns.

*In the hills east of Mukden.—Commanding, Lieut.-Colonel
Madridov.*

Ussuri Cossack Regiment—3 squadrons.

Amur Cossack Regiment—2 squadrons.

Frontier Guard Artillery—2 mountain guns.

Total—5 squadrons, 2 guns.

Between Hai-cheng and Hsiu-yen.—Major-General Mishchenko.

1st Chita Cossack Regiment—6 squadrons.

1st Verkhne-Udinsk Cossack Regiment—4 squadrons.

7th Siberian Regiment—6 squadrons.

1st Trans-Baikal Cossack Horse Artillery Battery.

Total—16 squadrons, 6 guns.

Ying-kou.

36th East Siberian Rifle Regiment.

Ta-shih-chiao—Hai-cheng.—Commanding, *Lieut.-General Baron Stakelberg.*

1st East Siberian Rifle Division—12 battalions, 4 batteries.

9th East Siberian Rifle Division—9 battalions, 4 batteries.

Total—21 battalions, 64 guns.

Hsiu-yen.—Commanding, *Major-General Mishchenko.*

1st Chita Cossack Regiment—6 squadrons.

1st Verkhne-Udinsk Cossack Regiment—4 squadrons.

1st Trans-Baikal Cossack Battery—6 guns.

Total—10 squadrons, 6 guns.

Sai-ma-chi.—Commanding, *Major-General Rennenkampf.*

1st Argun Cossack Regiment—6 squadrons.

2nd Argun Cossack Regiment—6 squadrons.

2nd Nerchinsk Cossack Regiments—6 squadrons.

3rd Trans-Baikal Cossack Battery.

6th East Siberian Rifle Division—3 battalions, 1 battery.

Total—18 squadrons, 3 battalions, 14 guns.

East of Mukden near Hsing-ching Ting.—Commanding, *Lieut.-Colonel Madridov.*

Ussuri Cossack Regiment—3 squadrons.

Amur Cossack Regiment—2 squadrons.

Total—5 squadrons.

Along the Fen-shui-Ling crests (Eastern Detachment).—
Commanding, *Lieut.-General Count Keller.*

2nd Chita Cossack Regiment—5 squadrons.

2nd Verkhne-Udinsk Cossack Regiment—4 squadrons.

3rd East Siberian Rifle Division—12 battalions, 4 batteries.

6th East Siberian Rifle Division—9 battalions, 3 batteries.

East Siberian Mountain Artillery—1 battery.

Total—9 squadrons, 21 battalions, 42 guns.

Liao-yang, Head-Quarters of the Manchurian Army.

2nd Siberian Army Corps.—Commanding, *Lieut.-General Zasulich.*

5th East Siberian Rifle Division—12 battalions, 4 batteries.

2nd Brigade, 31st Division—8 battalions, 3 batteries.

2nd Brigade, 35th Division—8 battalions, 3 batteries.

4th Siberian Army Corps.

2nd Siberian (Reserve) Division—12 battalions.

2nd Chita Cossack Regiment—1 squadron.

2nd Verkhne-Udinsk Cossack Regiment—2 squadrons.
Amur Cossack Regiment—1 squadron.
5th Siberian Cossack Regiment—6 squadrons.
7th Siberian Cossack Regiment—6 squadrons.
4th Trans-Baikal Cossack Battery.
1st Siberian Reserve Division—4 battalions.
East Siberian Engineers—2 battalions.
Total—16 squadrons, 44 battalions, 86 guns, 2 battalions
of engineers.

In movement on the railway.

Rest of troops from Siberian military district.
Orenburg Cossacks—4 regiments.

Mukden.

1st Siberian (Reserve) Division—6 battalions.

Kirin.

1st Siberian (Reserve) Division—3 battalions.

Harbin.

1st Siberian (Reserve) Division—3 battalions.
East Siberian Howitzer Artillery—2 batteries, probably
arrived from Vladivostok.
East Siberian Engineers—1 battalion.

*Employed on the railway and at other places, stations
unknown.*

Ussuri Railway Brigade.
Trans-Amur Railway Brigade.
Trans-Baikal Cossack Infantry—3 battalions.
Depôt battalions, East Siberian Rifle Divisions—3 batta-
lions.
Depôt and reserve battalions, 1st Siberian Division—
8 battalions.
3rd Verkhne-Udinsk Cossack Regiment—6 squadrons.
Trans-Baikal Cossacks depôt and reserve squadrons—18
squadrons.
Frontier Guard—cavalry, artillery, and infantry.

Along the Liao River.—Major-General Kossakovski.

Frontier Guard—6 squadrons.
Amur Cossack Regiment—3 squadrons.

1st June 1904.

USSURI ARMY.—Commanding, LIEUT.-GENERAL LENEVICH.

1st Nerchinsk Cossack Regiment—6 squadrons.
 6th Siberian Cossack Regiment—6 squadrons.
 9th Siberian Cossack Regiment—6 squadrons.
 Ussuri Cossack Regiment—3 squadrons.
 Amur Cossack Division—3 squadrons.
 Dépôt, Primorsk Dragoon Regiment—2 squadrons.
 2nd East Siberian Rifle Division—9 battalions, 4 batteries.
 8th East Siberian Rifle Division—12 battalions, 3 batteries.
 East Siberian Mountain Artillery—1 battery.
 East Siberian Engineers—1 battalion.
 Volunteers—1 battalion.
 Dépôt battalions, East Siberian Rifle Divisions—4 battalions.
 Nikolaievsk Fortress Infantry.
 Vladivostok Fortress Artillery.
 Possiet Fortress Artillery detachment.
 Nikolaievsk Mining Company.
 Vladivostok Mining Company.
 East Siberian Mining Company.
 Novokievskoe Mining Company.
 Vladivostok Telegraph Company.

Total field troops—24 squadrons, 22 battalions, 64 guns,
 1 battalion of engineers.

PORT ARTHUR.—Commanding, LIEUT.-GENERAL STESSEL

The same as on 16th May 1904.

MANCHURIAN ARMY.—Commanding, GENERAL KUROPATKIN.

South of Kai-ping.—Commanding, *Major-General Samsonov.*

Primorsk Dragoon Regiment—6 squadrons.
 4th Siberian Cossack Regiment—6 squadrons.
 8th Siberian Cossack Regiment—6 squadrons.
 Frontier Guard—4 squadrons.
 2nd Trans-Baikal Cossack Horse Artillery Battery.
 Total—22 squadrons, 6 guns.

Kai-ping, Head-Quarters, 1st Siberian Army Corps.—
 Commanding, *Lieut.-General Baron Stakelberg.*

1st East Siberian Rifle Division—12 battalions, 4 batteries.
 9th East Siberian Rifle Division—9 battalions, 3 batteries.
 Total—21 battalions, 56 guns.

Ying-kou.

9th East Siberian Rifle Division—3 battalions, 1 battery.

Marching to Kai-ping.

2nd Siberian (Reserve) Division—16 battalions.

2nd Siberian (Reserve) Artillery Brigade—2 batteries.

Total—16 battalions, 16 guns.

Hsin-min-tun and along the Liao River.—Commanding,
Major-General Kossakovski.

Frontier Guard—6 squadrons.

Amur Cossack Regiment—4 squadrons.

North of Feng-huang-cheng.—Eastern Detachment,
Lieut.-General Count Keller.

3rd East Siberian Rifle Division—12 battalions, 4 batteries.

6th East Siberian Rifle Division—9 battalions, 3 batteries.

2nd Chita Cossack Regiment—5 squadrons.

3rd Trans-Baikal Cossack Horse Artillery Battery.

Total—5 squadrons, 21 battalions, 54 guns.

North-west and north-east of Sai-ma-chi.—Commanding,
Major-General Rennenkampf.

1st Argun Cossack Regiment—6 squadrons.

2nd Argun Cossack Regiment—6 squadrons.

2nd Nerchinsk Cossack Regiment—6 squadrons.

6th East Siberian Rifle Division—3 battalions, 1 battery.

East Siberian Mountain Artillery—1 battery.

Total—18 squadrons, 3 battalions, 16 guns.

In the hills east of Mukden.—Commanding, *Lieut.-Colonel*
Madridov.

Ussuri Cossack Regiment—3 squadrons.

Amur Cossack Regiment—2 squadrons.

Frontier Guard Artillery—2 mountain guns.

Total—5 squadrons, 2 guns.

Between Hai-cheng and Hsiu-yen.—*Major-General Mishchenko.*

1st Chita Cossack Regiment—6 squadrons.

1st Verkhne-Udinsk Cossack Regiment—4 squadrons.

7th Siberian Regiment—6 squadrons.

1st Trans-Baikal Cossack Horse Artillery Battery.

Total—16 squadrons, 6 guns.

Liao-yang, Head-Quarters, Manchurian Army and 2nd Siberian Army Corps.

5th East Siberian Rifle Division—12 battalions, 4 batteries.
 2nd Brigade, 31st Division—8 battalions, 3 batteries.
 2nd Brigade, 35th Division—8 battalions, 3 batteries.
 1st Siberian (Reserve) Division—4 battalions.
 3rd Siberian (Reserve) Division—12 battalions.
 2nd Siberian (Reserve) Artillery Brigade—2 batteries.
 3rd Siberian (Reserve) Artillery Brigade—2 batteries.
 5th Siberian Cossack Regiment—6 squadrons.
 3rd Siberian Cossack Regiment—6 squadrons.
 2nd Verkhne-Udinsk Cossack Regiment—6 squadrons.
 4th Trans-Baikal Cossack Horse Artillery Battery.
 East Siberian Engineers—2 battalions.

Total—18 squadrons, 44 battalions, 118 guns, 2 battalions of engineers.

In movement on the railway.

Rest of troops from Siberian military district.
 Ural Cossacks—2 regiments.
 Orenburg Cossacks—5 regiments.

Mukden.

1st Siberian (Reserve) Division—6 battalions.

Kirin.

1st Siberian (Reserve) Division—3 battalions.

Harbin.

1st Siberian (Reserve) Division—3 battalions.
 East Siberian Howitzer Artillery—2 batteries.
 East Siberian Engineers—1 battalion.

Employed on the railway and at other places, stations unknown.

Ussuri Railway Brigade.
 Trans-Amur Railway Brigade.
 Trans-Baikal depôt and reserve Cossack squadrons—18 squadrons.
 3rd Verkhne-Udinsk Cossack Regiment—6 squadrons.
 Depôt battalions, East Siberian Rifle Divisions—3 battalions.
 Depôt and reserve battalions, 1st Siberian (Reserve) Divisions—8 battalions.
 Frontier Guard cavalry, artillery, and infantry.

21st June 1904.

PORT ARTHUR, same as on 1st June.

MANCHURIAN ARMY.—Commanding, GENERAL KUROPATKIN.

South of Kai-ping.—Commanding, *Major-General Samsonov.*

Primorsk Dragoon Regiment—6 squadrons.
 4th Siberian Cossack Regiment—3 squadrons.
 5th Siberian Cossack Regiment—3 squadrons.
 8th Siberian Cossack Regiment—6 squadrons.
 Frontier Guard—6 squadrons.
 2nd and 4th Trans-Baikal Cossack Horse Artillery Batteries
 Total—24 squadrons, 12 guns.

Kai-ping, Head-Quarters, 1st Siberian Army Corps.—Commanding, *Lieut.-General Baron Stakelberg.*

1st East Siberian Rifle Division—12 battalions, 4 batteries.
 9th East Siberian Rifle Division—12 battalions, 4 batteries.
 2nd Brigade, 31st Division—8 battalions, 3 batteries.
 2nd Brigade, 35th Division—8 battalions, 3 batteries.
 4th Siberian Cossack Regiment—3 squadrons.
 5th Siberian Cossack Regiment—3 squadrons.
 Total—6 squadrons, 40 battalions, 98 guns.

At the Ch'i-pan Ling.—Detachment of *Major-General Mishchenko.*

4th Siberian Army Corps—12 battalions, 3 batteries.
 1st Chita Cossack Regiment—6 squadrons.
 1st Verkhne-Udinsk Cossack Regiment—4 squadrons.
 1st Trans-Baikal Cossack Horse Artillery Battery.
 Total—10 squadrons, 12 battalions, 30 guns.

At the Ta Ling and south of it.

6th East Siberian Rifle Division—3 battalions, 1 battery.
 7th Siberian Cossack Regiment—6 squadrons.
 Total—6 squadrons, 3 battalions, 8 guns.

Ta-shih-chiao, Head-Quarters, 4th Siberian Army Corps.—Commanding, *Lieut.-General Zarubaiev.*

4th Siberian Army Corps—8 battalions, 2 batteries
 11th and 12th Orenburg Cossack Regiments—12 squadrons.
 3rd Siberian Cossack Regiment—6 squadrons.
 Total—16 squadrons, 8 battalions, 16 guns.

Ying-kou.

4th Siberian Army Corps—4 battalions, 1 battery.

Hsi-mu-cheng.

4th Siberian Army Corps—8 battalions, 2 batteries.

Hai-cheng, Head-Quarters, 2nd Siberian Army Corps.—Commanding, *Lieut.-General Zasulich*.

5th East Siberian Rifle Division—12 battalions, 4 batteries.

11th and 20th Horse Artillery Batteries.

4th and 5th Ural Cossack Regiments (*en route*)—12 squadrons.

Amur Cossack Regiment—1 squadron.

Total—13 squadrons, 12 battalions, 44 guns.

Liao-yang.

1st Brigade, 31st Division—4 battalions.

1st Siberian (Reserve) Division—4 battalions.

1st Siberian (Reserve) Artillery Division—3 batteries.

East Siberian Howitzer Artillery—1 battery.

Amur Cossack Regiment—3 squadrons.

2nd Verkhne-Udinsk Cossack Regiment—6 squadrons.

East Siberian Engineers—2 battalions.

Total—9 squadrons, 8 battalions, 2 battalions of engineers, 30 guns.

Hsin-min-tun and Liao River.

Frontier Guard—6 squadrons.

Along the Feng-shui Ling Crests, Eastern Detachment.—Commanding, *Lieut.-General Count Keller*.

3rd East Siberian Rifle Division—12 battalions, 4 batteries.

6th East Siberian Rifle Division—6 battalions, 2 batteries.

2nd Chita Cossack Regiment—5 squadrons.

3rd Trans-Baikal Cossack Horse Artillery Battery.

Total—5 squadrons, 18 battalions, 54 guns.

Hsiao-ssu-erh and south of it.—Commanding, *Major-General Rennenkampf*.

1st Argun Cossack Regiment—6 squadrons.

2nd Argun Cossack Regiment—6 squadrons.

2nd Nerchinsk Cossack Regiment—6 squadrons.

2nd Chita Cossack Regiment—1 squadron.

6th East Siberian Rifle Division—3 battalions, 1 battery.

1st Siberian (Reserve) Division—2 battalions.

East Siberian Mountain Artillery—1 battery.

Total—19 squadrons, 5 battalions, 16 guns.

Hsing-ching Ting or neighbourhood.—Independent mounted detachment, Commanding, *Lieut.-Colonel Madridov*.

Ussuri Cossack Regiment—2 squadrons.

Amur Cossack Regiment—2 squadrons.

10th Orenburg Cossack Regiment—6 squadrons.

Frontier Guard Artillery—2 mountain guns.

Total—10 squadrons, 2 guns.

Mukden.

1st Siberian (Reserve) Division—6 battalions.

Kirin.

1st Siberian (Reserve) Division—2 battalions.

Harbin.

Amur Cossack Division—3 squadrons.

1st Siberian (Reserve) Artillery Division—1 battery.

East Siberian Howitzer Artillery—1 battery.

1st Siberian (Reserve) Division—2 battalions.

East Siberian Engineers—2 battalions.

Employed on the railway and at other places, stations unknown.

Ussuri Cossack Regiment—1 squadron.

3rd Verkhne-Udinsk Cossack Regiment—6 squadrons.

Depôt and reserve squadrons, Trans-Baikal Cossacks—18 squadrons.

Depôt and reserve battalions, 1st Siberian (Reserve) Divisions—8 battalions.

Depôt battalions, East Siberian Rifle Divisions—3 battalions.

Trans-Baikal Cossack Infantry—3 battalions.

Ussuri Railway Brigade.

Trans-Amur Railway Brigade.

Frontier Guard artillery, cavalry, and infantry.

In movement on the railway.

Rest of Xth Army Corps.

Rest of XVIIth Army Corps.

Dragoon Brigade.

Caucasian Cavalry Brigade.

USSURI ARMY.—Commanding, LIEUT.-GENERAL
LENEVICH.

9th Orenburg Cossack Regiment—6 squadrons.

6th and 9th Siberian Cossack Regiments—12 squadrons.

1st Nerchinsk Cossack Regiment—6 squadrons.

Ussuri Cossack Regiment—3 squadrons.

Hsi-mu-cheng.

4th Siberian Army Corps—8 battalions, 2 batteries.

Hsi-cheng. Head-Quarters, 2nd Siberian Army Corps.—Commanding, *Lieut.-General Zisulich.*

5th East Siberian Rifle Division—12 battalions, 4 batteries.

11th and 20th Horse Artillery Batteries.

4th and 5th Ural Cossack Regiments (*en route*)—12 squadrons.

Amur Cossack Regiment—1 squadron.

Total 18 squadrons, 12 battalions, 44 guns.

Liao-yang.

1st Brigade, 31st Division—4 battalions.

1st Siberian (Reserve) Division—4 battalions.

1st Siberian (Reserve) Artillery Division—3 batteries.

East Siberian Howitzer Artillery—1 battery.

Amur Cossack Regiment—3 squadrons.

2nd Vorkhne Ulinak Cossack Regiment—6 squadrons.

East Siberian Engineers—2 battalions.

Total 10 squadrons, 8 battalions, 2 battalions of engineers,
10 guns.

Hsin-min-sun and Liao River.

Frontier Guard—6 squadrons.

Along the River above Long Choke, Eastern Detachment.—Commanding, *Lieut. General Count Keller.*

2nd East Siberian Rifle Division—12 battalions, 4 batteries.

11th East Siberian Rifle Division—6 battalions, 2 batteries.

2nd Ural Cossack Regiment—3 squadrons.

1st Ural Cossack Regiment—1 battery.

Total 8 squadrons, 18 battalions, 34 guns.

Hsin-min-sun and south of it. Commanding, *Major-General Kosenovitch.*

1st Amur Cossack Regiment—6 squadrons.

2nd Amur Cossack Regiment—6 squadrons.

3rd Amur Cossack Regiment—6 squadrons.

4th Amur Cossack Regiment—1 squadron.

11th East Siberian Rifle Division—3 battalions, 1

1st Siberian (Reserve) Division—2 battalions.

East Siberian Mountain Artillery—1 battery.

Total 10 squadrons, 5 battalions, 16 guns.

1st Siberian (Reserve) Division—2 battalions.
 3rd Trans-Baikal Cossack Battery—1 battery.
 East Siberian Mountain Artillery—1 battery.
 6th East Siberian Rifle Division—1 battery.
 Frontier Guard Artillery—6 mountain guns.
 Total—19 squadrons, 18 battalions, 76 guns.

Lang-tzu-shan.

Eastern Detachment.—Commanding, *Lieut.-General Count Keller.*

3rd East Siberian Rifle Division—12 battalions, 4 batteries.
 6th East Siberian Rifle Division—9 battalions, 2 batteries.
 1st Brigade, 31st Division—4 battalions, 1 battery.
 2nd Chita Cossack Regiment—5 squadrons.
 Ussuri Cossack Regiment—1 squadron.
 East Siberian Engineers—1 battalion.
 Total—6 squadrons, 25 battalions, 56 guns, 1 battalion of engineers.

Total Eastern Group—25 squadrons, 43 battalions, 1 battalion of engineers, 132 guns.

CENTRAL GROUP.

Liao-yang, Liao River and lines of communication to Eastern Group.

1st Orenburg Cossack Regiment—6 squadrons.
 2nd Verkhne-Udinsk Cossack Regiment—6 squadrons.
 Daghestan Cossack Regiment—6 squadrons.
 Amur Cossack Regiment—3 squadrons.
 1st Brigade, 31st Division—4 battalions, 4 batteries.
 1st Siberian (Reserve) Division—4 battalions.
 East Siberian Engineers—1 battalion.
 Total—21 squadrons, 8 battalions, 32 guns, 1 battalion of engineers.

Heing-ching Ting.—Commanding, *Lieut.-Colonel Madridov.*

Amur Cossack Regiment—2 squadrons.
 Ussuri Cossack Regiment—2 squadrons.
 10th Orenburg Cossack Regiment—6 squadrons.
 Frontier Guard Artillery—2 guns.
 1st Siberian (Reserve) Division—1 battalion.
 Total—10 squadrons, 1 battalion, 2 guns.

Mukden.

1st Siberian (Reserve) Division—5 battalions.
 Kuban-Terek Cossack Regiment—6 squadrons.

Hsi-mu-cheng.

4th Siberian Army Corps—8 battalions, 2 batteries.

Hai-cheng, Head-Quarters, 2nd Siberian Army Corps.—Commanding, *Lieut.-General Zasulich*.

5th East Siberian Rifle Division—12 battalions, 4 batteries.

11th and 20th Horse Artillery Batteries.

4th and 5th Ural Cossack Regiments (*en route*)—12 squadrons.

Amur Cossack Regiment—1 squadron.

Total—13 squadrons, 12 battalions, 44 guns.

Liao-yang.

1st Brigade, 31st Division—4 battalions.

1st Siberian (Reserve) Division—4 battalions.

1st Siberian (Reserve) Artillery Division—3 batteries.

East Siberian Howitzer Artillery—1 battery.

Amur Cossack Regiment—3 squadrons.

2nd Verkhne-Udinsk Cossack Regiment—6 squadrons.

East Siberian Engineers—2 battalions.

Total—9 squadrons, 8 battalions, 2 battalions of engineers,
30 guns.

Hsin-min-tun and Liao River.

Frontier Guard—6 squadrons.

Along the Feng-shui Ling Crests, Eastern Detachment.—Commanding, *Lieut.-General Count Keller*.

3rd East Siberian Rifle Division—12 battalions, 4 batteries.

6th East Siberian Rifle Division—6 battalions, 2 batteries.

2nd Chita Cossack Regiment—5 squadrons.

3rd Trans-Baikal Cossack Horse Artillery Battery.

Total—5 squadrons, 18 battalions, 54 guns.

Hsiao-ssu-erh and south of it.—Commanding, *Major-General Rennenkampf*.

1st Argun Cossack Regiment—6 squadrons.

2nd Argun Cossack Regiment—6 squadrons.

2nd Nerchinsk Cossack Regiment—6 squadrons.

2nd Chita Cossack Regiment—1 squadron.

6th East Siberian Rifle Division—3 battalions, 1 battery.

1st Siberian (Reserve) Division—2 battalions.

East Siberian Mountain Artillery—1 battery.

Total—19 squadrons, 5 battalions, 16 guns.

Hsing-ching Ting or neighbourhood.—Independent mounted detachment, Commanding, *Lieut.-Colonel Madridov*.

Ussuri Cossack Regiment—2 squadrons.

Amur Cossack Regiment—2 squadrons.

10th Orenburg Cossack Regiment—6 squadrons.

Frontier Guard Artillery—2 mountain guns.

Total—10 squadrons, 2 guns.

Mukden.

1st Siberian (Reserve) Division—6 battalions.

Kirin.

1st Siberian (Reserve) Division—2 battalions.

Harbin.

Amur Cossack Division—3 squadrons.

1st Siberian (Reserve) Artillery Division—1 battery.

East Siberian Howitzer Artillery—1 battery.

1st Siberian (Reserve) Division—2 battalions.

East Siberian Engineers—2 battalions.

Employed on the railway and at other places, stations unknown.

Ussuri Cossack Regiment—1 squadron.

3rd Verkhne-Udinsk Cossack Regiment—6 squadrons.

Depôt and reserve squadrons, Trans-Baikal Cossacks—18 squadrons.

Depôt and reserve battalions, 1st Siberian (Reserve) Divisions—8 battalions.

Depôt battalions, East Siberian Rifle Divisions—3 battalions.

Trans-Baikal Cossack Infantry—3 battalions.

Ussuri Railway Brigade.

Trans-Amur Railway Brigade.

Frontier Guard artillery, cavalry, and infantry.

In movement on the railway.

Rest of Xth Army Corps.

Rest of XVIIth Army Corps.

Dragoon Brigade.

Caucasian Cavalry Brigade.

USSURI ARMY.—Commanding, LIEUT.-GENERAL
LENEVICH.

9th Orenburg Cossack Regiment—6 squadrons.

6th and 9th Siberian Cossack Regiments—12 squadrons.

1st Nerchinsk Cossack Regiment—6 squadrons.

Ussuri Cossack Regiment—3 squadrons.

Dépôt, Primorsk Dragoons—2 squadrons.
 2nd East Siberian Rifle Division—9 battalions, 4 batteries.
 8th East Siberian Rifle Division—12 battalions, 3 batteries.
 Volunteers—1 battalion.
 East Siberian Engineers—1 battalion.
 Dépôt battalions, East Siberian Rifle Divisions—4 bat-
 talions.
 East Siberian Mountain Artillery—1 battery.
 Fortress troops as before.
 Total field troops—27 squadrons, 22 battalions, 64 guns,
 1 battalion of engineers.

28th June 1904.

SOUTHERN GROUP.

GENERAL KUROPATKIN in supreme command.

Personal escort—1 squadron, Amur Cossack Regiment.

South of Kai-ping.—Commanding, Major-General Samsonov.

Primorsk Dragoons—6 squadrons.
 8th Siberian Cossack Regiment—6 squadrons.
 4th and 5th Siberian Cossack Regiments—6 squadrons.
 Frontier Guard and *Okhotniki**—4 squadrons.
 2nd and 4th Trans-Baikal Cossack Artillery Batteries—
 12 guns.

Total—22 squadrons, 12 guns.

Tang-chih.—Commanding, Major-General Mishchenko.

7th Siberian Cossack Regiment—6 squadrons.
 1st Chita Cossack Regiment—6 squadrons.
 1st Verkhne-Udinsk Cossack Regiment—4 squadrons.
 11th and 12th Orenburg Cossack Regiments—12 squadrons.
 4th Siberian Army Corps—14 battalions, 4 batteries.
 2nd Brigade, 35th Division, 8 battalions, 3 batteries.
 11th Horse Artillery Battery—1 battery.
 1st Trans-Baikal Cossack Horse Battery—1 battery.
 Frontier Guard Artillery—4 guns.

Total—28 squadrons, 22 battalions, 72 guns.

Kai-ping.—Commanding, Lieut.-General Baron Stakelberg.

1st East Siberian Rifle Division—12 battalions, 4 batteries.
 9th East Siberian Rifle Division—12 battalions, 4 batteries.
 4th and 5th Siberian Cossack Regiments—6 squadrons.
 East Siberian Engineers—1 battalion.

Total—6 squadrons, 24 battalions, 50 guns, 1 battalion of engineers.

* See page 241.

Ping-kou.

4th Siberian Army Corps—3 battalions.

Hsi-mu-cheng.—Commanding, *Lieut.-General Zasulich.*

5th East Siberian Rifle Division—12 battalions, 4 batteries.

6th East Siberian Rifle Division—3 battalions, 1 battery.

20th Horse Artillery Battery—1 battery.

4th and 5th Ural Cossack Regiments—12 squadrons.

Total—12 squadrons, 15 battalions, 46 guns.

Hai-cheng—Ta-shih-chiao.—Commanding, *Lieut.-General Zarubaiev.*

4th Siberian Army Corps—15 battalions, 12 batteries.

31st Division—15 battalions, 8 batteries.

3rd Siberian Cossack Regiment—6 squadrons.

East Siberian Engineers—1 battalion.

Total—6 squadrons, 30 battalions, 160 guns, 1 battalion of engineers.

Marching and Counter-marching between Eastern Detachment and Hai-cheng.

3rd East Siberian Rifle Division—9 battalions, 3 batteries.

These troops passed through Liao-yang *en route* to rejoin the Eastern Detachment on the 1st July 1904.

Total Southern Group—75 squadrons, 94 battalions, 2 battalions of engineers, 340 guns.

EASTERN GROUP.

Hsi-ho-yen and extreme east of the Fen-shui Ling Range.—
Commanding, *Major-General Rennenkampf.*

1st and 2nd Argun Cossack Regiments—12 squadrons.

2nd Nerchinsk Cossack Regiment—6 squadrons.

2nd Chita Cossack Regiment—1 squadron.

6th East Siberian Rifle Division—3 battalions, 1 battery.

1st Siberian (Reserve) Division—2 battalions.

3rd Trans-Baikal Cossack Horse Artillery Battery—1 battery.

East Siberian Mountain Artillery—1 battery.

Frontier Guard Artillery—4 guns.

Total—19 squadrons, 5 battalions, 26 guns.

Probably along the Fen-shui Ling Crests.—Commanding,
Lieut.-General Count Keller.

2nd Chita Cossack Regiment—5 squadrons.

3rd East Siberian Rifle Division—3 battalions, 1 battery.

6th East Siberian Rifle Division—6 battalions, 2 batteries.
East Siberian Engineers—1 battalion.

Total—5 squadrons, 9 battalions, 24 guns, 1 battalion of engineers.

Total, Eastern Group.*—24 squadrons, 14 battalions, 50 guns, 1 battalion of engineers.

CENTRAL GROUP.

Liao-yang, on Liao River, and lines of communication to Eastern Group.

2nd Verkhne-Udinsk Cossack Regiment—6 squadrons.

Amur Cossack Regiment—3 squadrons.

Frontier Guard Cavalry—6 squadrons.

31st Division—1 battalion.

1st Siberian (Reserve) Division—4 battalions.

East Siberian Howitzer Artillery—2 batteries.

East Siberian Engineers—1 battalion.

Total—15 squadrons, 5 battalions, 12 guns, 1 battalion of engineers.

Mukden—Hsing-ching Ting.—Commanding, *Lieut.-Colonel Madridov*.

Ussuri Cossack Regiment—2 squadrons.

Amur Cossack Regiment—2 squadrons.

10th Orenburg Cossack Regiment—6 squadrons.

Frontier Guard Artillery—2 mountain guns.

1st Siberian (Reserve) Division—6 battalions.

Total—10 squadrons, 6 battalions, 2 guns.

Kirin.

1st Siberian (Reserve) Division—2 battalions.

Harbin.

1st Siberian (Reserve) Division—2 battalions.

Amur Cossack Division—3 squadrons.

East Siberian Engineers—1 battalion.

In movement on the railway.

Rest, Xth Army Corps.

Rest, XVIIth Army Corps.

Caucasian Cossack Brigade.

Dragoon Brigade.

* This does not include 9 battalions and 24 guns which were marching to Hai-cheng.

Employed on the railway, or at other places, stations unknown.

Ussuri Cossack Regiment—1 squadron.

3rd Verkhne-Udinsk Cossack Regiment—6 squadrons.

Depôt and reserve squadrons, Trans-Baikal Cossacks—18 squadrons.

Depôt and reserve battalions, 1st Siberian (Reserve) Division—8 battalions.

Depôt battalions, East Siberian Rifle Divisions—3 battalions.

Trans-Baikal Cossack Infantry—3 battalions.

Ussuri Railway Brigade.

Trans-Amur Railway Brigade.

Frontier Guard cavalry and artillery.

PORT ARTHUR and USSURI ARMY.

(See distribution for 21st June 1904.)

19th July 1904.

SOUTHERN GROUP.

Near Tang-chih.—Commanding, *Major-General Mishchenko.*

1st Chita Cossack Regiment—6 squadrons.

1st Verkhne-Udinsk Cossack Regiment—4 squadrons.

7th Siberian Cossack Regiment—6 squadrons.

11th and 12th Orenburg Cossack Regiments—12 squadrons.

1st Trans-Baikal Cossack Horse Artillery Battery—6 guns.

11th Horse Artillery Battery—6 guns.

Frontier Guard Artillery—4 guns.

Total—28 squadrons, 16 guns.

South of Ta-shih-chiao.—Commanding, *Major-General Kossakovski.*

Primorsk Dragoon Regiment—6 squadrons.

4th and 5th Siberian Cossack Regiments—6 squadrons.

8th Siberian Cossack Regiment—6 squadrons.

Frontier Guard and *Okhotniki*—6 squadrons,

2nd and 4th Trans-Baikal Cossack Batteries—12 guns.

Total—24 squadrons, 12 guns.

Ying-kou.

3rd Division, 4th Siberian Army Corps—2 battalions.

Ta-shih-chiao.

1st Siberian Army Corps.—Commanding, *Lieut.-General Baron Stakelberg.*

4th and 5th Siberian Cossack Regiments—6 squadrons.

1st East Siberian Rifle Division—12 battalions, 4 batteries.

9th East Siberian Rifle Division—12 battalions, 4 batteries.

East Siberian Engineers—1 battalion.

4th Siberian Army Corps.—Commanding, *Lieut.-General Zarubaiev.*

3rd Siberian (Reserve) Division—14 battalions, 8 batteries.

3rd Siberian Cossack Regiment—6 squadrons.

East Siberian Engineers—1 battalion.

Total—12 squadrons, 38 battalions, 128 guns, 2 battalions of engineers.

Hsi-mu-cheng.

2nd Siberian Army Corps.—Commanding, *Lieut.-General Zasulich.*

4th and 5th Ural Cossack Regiments—12 squadrons.

5th East Siberian Rifle Division—12 battalions, 4 batteries.

6th East Siberian Rifle Division—3 battalions, 1 battery.

2nd Brigade 35th Division—8 battalions, 3 batteries.

20th Horse Artillery Battery—1 battery.

East Siberian Engineers—1 battalion.

Total—12 squadrons, 23 battalions, 70 guns, 1 battalion of engineers.

Hai-cheng.

2nd Division, 4th Siberian Army Corps—16 battalions, 8 batteries.

2nd Brigade, 31st Division—8 battalions, 3 batteries.

1st Brigade, 35th Division—8 battalions, 3 batteries.

East Siberian Howitzer Artillery—2 batteries.

6th Sapper Battalion.

Total—32 battalions, 124 guns, 1 battalion of engineers.

Total Southern Group—76 squadrons, 95 battalions, 4 battalions of engineers, 350 guns.

EASTERN GROUP.

Retiring from Hsi-ho-yen, or thereabouts.—Commanding, *Major-General Lubuvin.*

1st and 2nd Argun Cossack Regiments—12 squadrons.

2nd Nerchinsk Cossack Regiment—6 squadrons.

2nd Chita Cossack Regiment—1 squadron.

9th European Division—16 battalions, 6 batteries.

1st Siberian (Reserve) Division—2 battalions.
 3rd Trans-Baikal Cossack Battery—1 battery.
 East Siberian Mountain Artillery—1 battery.
 6th East Siberian Rifle Division—1 battery.
 Frontier Guard Artillery—6 mountain guns.
 Total—19 squadrons, 18 battalions, 76 guns.

Lang-tzu-shan.

Eastern Detachment.—Commanding, *Lieut.-General Count Keller.*

3rd East Siberian Rifle Division—12 battalions, 4 batteries.
 6th East Siberian Rifle Division—9 battalions, 2 batteries.
 1st Brigade, 31st Division—4 battalions, 1 battery.
 2nd Chita Cossack Regiment—5 squadrons.
 Ussuri Cossack Regiment—1 squadron.
 East Siberian Engineers—1 battalion.
 Total—6 squadrons, 25 battalions, 56 guns, 1 battalion of engineers.
 Total Eastern Group—25 squadrons, 43 battalions, 1 battalion of engineers, 132 guns.

CENTRAL GROUP.

Liao-yang, Liao River and lines of communication to Eastern Group.

1st Orenburg Cossack Regiment—6 squadrons.
 2nd Verkhne-Udinsk Cossack Regiment—6 squadrons.
 Daghestan Cossack Regiment—6 squadrons.
 Amur Cossack Regiment—3 squadrons.
 1st Brigade, 31st Division—4 battalions, 4 batteries.
 1st Siberian (Reserve) Division—4 battalions.
 East Siberian Engineers—1 battalion.
 Total—21 squadrons, 8 battalions, 32 guns, 1 battalion of engineers.

Hsing-ching Ting.—Commanding, *Lieut.-Colonel Madridov.*

Amur Cossack Regiment—2 squadrons.
 Ussuri Cossack Regiment—2 squadrons.
 10th Orenburg Cossack Regiment—6 squadrons.
 Frontier Guard Artillery—2 guns.
 1st Siberian (Reserve) Division—1 battalion.
 Total—10 squadrons, 1 battalion, 2 guns.

Mukden.

1st Siberian (Reserve) Division—5 battalions.
 Kuban-Terek Cossack Regiment—6 squadrons.

(2) The Russian Plan of Campaign.

REPORT by Colonel W. H.-H. WATERS, C.V.O., C.M.G.

(See Map 89.)

I was told that the original Russian plan of campaign, which was definitely approved by the Emperor in January 1904, when war was practically certain, was that the Russian army should, first of all, be concentrated in Northern Manchuria, and not assume the offensive until sufficient numbers had been assembled in that region. Harbin was manifestly the centre to be selected. This plan, after having been definitely decided upon as the best one under the circumstances, was entirely reversed prior to the advent of General Kuropatkin in the theatre of war.

The Russian Great General Staff had estimated that Japan could disembark an army in Manchuria within six weeks from the date of the order to mobilize, provided it should not be blocked by ice. It had also calculated, and, as events have proved, calculated correctly, that a Russian Army of six corps and three cavalry divisions would require six months to concentrate in the northern half of Manchuria. But of this force less than two army corps had to come from Europe, be it noted.

One Russian officer said he could not understand why Japan did not declare war before navigation was closed at Ying-kou at the end of 1903, as she could then have taken Ying-kou very easily, seeing that it was held at that time by only two scratch, weak divisions newly formed. Liao-yang would then have been occupied by the invader, whose line of communication would have run through Korea only, until the ice should disappear.

The Russian plan, then, was abandoned, and, instead of it, the forces were scattered over an immense area, being everywhere too weak. Thus they were beaten in detail, and their positions were often too extensive for the numbers available. One result of this system was to demoralize the troops by the incessant retreats which it necessitated.

Thus it was that Kuropatkin's "general reserve" consisted, on the 18th April, of sixteen battalions sent from European Russia in 1903, and half a dozen batteries. I heard him say that he meant to keep these troops under his own hand until his concentration should be completed, but half of them were thoroughly defeated before two months had passed, owing to the plan of operations which was forced upon him. On the 28th April I was told that the Commander-in-Chief was frequently besought by this or that general at the front to send reinforcements, but that he was resolved not to make matters worse by letting go any of these sixteen battalions until absolutely compelled to do so, which he eventually was.

It was abundantly clear by the 1st May that there was friction between the Viceroy and Kuropatkin. If the former was not the originator of the shape which military affairs were assuming, he certainly was a consenting party. What the plan of campaign precisely was at this juncture it would be difficult, if not impossible, to say.

The result of the revised plan of campaign was the sudden order to the 1st Siberian Army Corps, to which I was attached, to move south from Kai-ping on the 4th June. The intention was to attempt the relief of Port Arthur, and the outcome of it was another disastrous defeat, at Wa-fang-kou (Te-li-ssu) a few days later. Kuropatkin, as I happened to be aware, was confident that the fortress could hold out until September, at any rate, but he was overruled by the Viceroy, and felt at last compelled to reinforce Stakelberg at the beginning of June with eight of the sixteen battalions which formed his general reserve at Liao-yang.

After Wa-fang-kou I was told that Kuropatkin, whose headquarters had been moved south to Ta-shih-chiao by the end of June, did not yet feel himself strong enough to attack the enemy. He went on to say that the Russian Commander-in-Chief hoped that Kuroki would advance from the east, as he believed he could defeat the latter if single-handed, but that he did not consider himself sufficiently powerful to overcome a combined advance from the east and from the south on the part of both Kuroki and Oku. Yet he awaited it, while still holding this opinion.

As a matter of fact, the main body of the Russians at Ta-shih-chiao was not attacked in force for a month, namely, on the 24th July, after this information had been given to me, the reason for the delay being to me a matter of surmise.

Throughout all the operations of 1904, with scarcely an exception, one portion of the Russian plan of campaign was abundantly manifested, which was to fortify positions and to hold passively on to them.

I think it is highly probable that the chief reason why the Russians remained so far south after Wa-fang-kou was their great reluctance to let go of Ying-kou. A Russian staff officer told me this on the 27th June, and Kuropatkin's strategy bore out his statement. On the 3rd August, General Kuropatkin had come north to Liao-yang in order to confer there with the Viceroy, and it was then, I found out, definitely resolved that the Russian army should accept battle at Liao-yang, and not at An-shan-tien, which is twenty miles further towards the south, and which had been very strongly fortified.

On the 9th August, a Russian officer told me that Kuropatkin was well pleased with the prospect of a great battle round Liao-yang, as the Japanese would then be compelled to emerge from the hills in the east, and would no longer be able to outflank the Russians and threaten their communications. The

general opinion of the Russian Head-Quarters Staff on the 23rd August was, however, that the Japanese would not venture to attack.

On the 10th September, two or three days after the retreat to Mukden, which followed the battle of Liao-yang, had been completed, the question of an immediate offensive movement southwards was considered by the Russian military authorities, but I heard General Kuropatkin say that this was out of the question for a few weeks to come, until his losses should have been made good.

The subsequent advance of the Russians, early in October, was a desperate effort to win *one* victory before winter set in, and was an afterthought instead of being part of a matured plan. It failed disastrously, and I never could see any reason why it should have succeeded. The great loss was Liao-yang; Kuropatkin, by leaving that city, acknowledged that he could no longer hold it, yet one month later he proposed to turn the Japanese out of that formidable position.

It is true that, in a November issue, one of the Russian official newspapers in Manchuria stated that "Japan has been defeated." This was in order to encourage the troops, who, however, knew better than anybody the results of the campaign up to that date. The Russian authorities acted as if troops were mere machines, and frankly said that no number of defeats would ever discourage their men. I think the Russian soldiers are far more machine-like than their comrades of any other nation that I know of—but even machines wear out.

To sum up, the sound and easy scheme of January 1904 was thrown overboard, and a series of disjointed operations were undertaken. No real plan of campaign was adopted in its place until the decision to fight at Liao-yang, *if attacked*, was reached on the 3rd August, six months after the outbreak of hostilities.

If the plan of campaign of January 1904 had been pursued, the Russians might or might not have been now in occupation of Mukden, three hundred and forty miles south of Harbin, which would have been their point of concentration. But even had they not captured the former city, they could scarcely have suffered such physical and moral damage as they have done, and must, I imagine, have been better situated for continuing the struggle than they are at present.

It is, of course, true, on the other hand, that if the original Russian plan of campaign had been adhered to, the Japanese would have occupied Southern Manchuria without suffering the heavy losses entailed by the great battles at Liao-yang and on the Sha Ho, to say nothing about those caused in numerous actions on a smaller scale, and each military man must decide for himself what course he would have adopted after weighing the various advantages and disadvantages—political, military, and financial—inherent in whatever measures he might have taken.

(3) The Distribution and Strength of the Russian Forces.

REPORT by Colonel W. H.-H. WATERS, C.V.O., C.M.G.

Plates.

General Map -	-	Map 89
Retirement of the Russian Army from Liao-yang	-	„ 92

When hostilities began in February 1904, it was believed in Russia that the army which it had been decided to organize in Manchuria would be more than ample for the task to be undertaken. That army was intended to consist of the 1st, 2nd, 3rd, and 4th Siberian Army Corps, the 1st and 4th Siberian Infantry Divisions, the Xth and XVIIth Army Corps from European Russia, two divisions of Trans-Baikal Cossack cavalry, a division of Siberian Cossacks, a regiment of Ussuri Cossacks, and one of Amur Cossacks, besides the Primorsk Dragoons, and the 51st and 52nd Dragoons, the two last being in Russia. This force comprised 188 battalions of infantry, 102 squadrons, and 608 field guns, besides engineers and some horse artillery, and was to be under the command of General Kuropatkin.

When he arrived in the theatre of war,* at the end of March 1904, there were three general officers in the Far East, each of whom held an independent command under the Viceroy, namely, Kuropatkin in Manchuria, Lenevich in the Ussuri territory, which includes Vladivostok, and Stessel at Port Arthur. The troops were grouped, about the time of Kuropatkin's arrival, so as to defend Port Arthur, Ying-kou, the Ya-lu River, and Vladivostok, and they amounted to 140 battalions of infantry, 72 squadrons, and 376 field guns, of which 48 were old pattern weapons, besides a few horse artillery batteries, machine guns, and some practically useless, old-fashioned mountain guns.

Of these forces, Port Arthur had, in addition to its sedentary and permanent garrison, 27 battalions of infantry,† and 56 field guns; Vladivostok had 21 battalions, 18 squadrons, and 64 field guns, while the remainder were under Kuropatkin's command, namely, 92 battalions, 54 squadrons, and 256 field guns. His force was distributed as follows in April 1904: 36 battalions of infantry and 96 guns were echeloned along the railway from Liao-yang to Ying-kou; 16 battalions, 30 squadrons, and 48 guns were at Liao-yang; 24 battalions, 18

* See Map 89.

† Until about the end of April there were a few additional battalions, but these were withdrawn, with the exception of three, and rejoined the divisions to which they belonged.—W. H. H. W.

squadrons, and 64 guns were on the Ya-lu, and 6 squadrons were at Ying-kou, while 16 battalions with 48 guns, at Harbin, were not yet available for the field army.

Thus the fact is abundantly manifest that Russia was not prepared for the war; but in case it should come, it had been recognized that an army of this size was too small for the task which it was desired to perform, and it had, therefore, been decided to reinforce General Kuropatkin to the extent of 96 battalions of infantry, 48 squadrons, and 352 field guns, so that his force should consist of the 188 battalions of infantry, 102 squadrons, and 608 field guns, already mentioned.

How inadequate this army was is shown by the fact that Kuropatkin had actually in line of battle at the end of November, the 1st, 2nd, 3rd, 4th, 5th, and 6th Siberian Corps, together with the 1st, VIIIth, Xth, and XVIIth Corps from European Russia, besides his cavalry. In other words, as the order of battle was frequently changed by the breaking up of army corps, he had then 316 battalions of infantry, 174 squadrons, and 1,056 field guns, in addition to several batteries of horse artillery, 56 modern mountain guns, some heavy guns, howitzers, and machine guns, without having scored one single positive success during the whole campaign. Now he has, in February 1905, under his hand, 364 battalions and more than 1,300 field guns, having been further reinforced by the XVIth Army Corps, and two brigades of rifles from Russia. The army was divided into three smaller armies at the end of 1904, all subject theoretically to the Commander-in-Chief; but before General Gripenberg, who was placed at the head of the 2nd Army, started for Manchuria, I heard a general say that he would soon fall out with his chief, which prediction has been amply verified. The advent of General Lenevich to command the First Army was hailed with delight, as he was said never to have a sharp word for anybody, and General Kaulbars was given the Third Army because he bears an historic name. It is safe to say that it is not owing entirely to the admitted unpreparedness of Russia that she has hitherto failed in the field.

From the above distribution it will be seen that General Zasluch, who commanded the force on the Ya-lu, was beyond the reach of timely assistance, but the Viceroy or St. Petersburg, or both, were responsible for having placed him there. I was told that Kuropatkin had been opposed to this plan, but was overruled.

It is true that Kuropatkin ordered Zasluch not to accept battle, but Russian generals frequently go their own way.

By the beginning of May, Kuropatkin had drawn down to Mukden from Harbin the 16 battalions and 48 old pattern guns which formed the 1st Siberian Division. War was looked upon as certain at St. Petersburg in January 1904, so a Russian general officer informed me, and if Russia had not presumed

her preparations for it to the very last hour, one may say, she could have sent reinforcements by march route from Western Siberia in good time, and this would afterwards have relieved the railway to a very considerable extent, enabling troops or stores from Europe to have been despatched earlier than they could be subsequently sent. Russian troops frequently used to march, prior to the construction of the railway, from Tomsk, or some such distant place, to Vladivostok, a distance of about 4,500 miles, chiefly in winter. Nowadays the Russians say that the distances are too great to march, but I suspect that indolence has a good deal to say to this.

As matters actually stood, however, it had been calculated in St. Petersburg that a Russian army, estimated as sufficiently strong at first, could not be assembled in Manchuria before August, and this estimate proved to be correct.

On the 28th April, General Rennenkampf's cavalry division of 24 Trans-Baikal Cossack squadrons marched south from Liao-yang, but the Japanese victory of the Ya-lu, on the 1st May, caused its recall and subsequent despatch to the south-east; it arrived back at Liao-yang, on its way to its new destination, on the 3rd May. The 5th East Siberian Rifle Division was also retreating from the south towards Liao-yang on the 9th May, and, at that time, a general retirement on Harbin, which was intended, at one time, to have been the Russian centre of concentration, was regarded as not improbable.

Meanwhile the strength of the Russian army in the theatre of war was not being augmented so rapidly as the original plan had estimated. The newly mobilized "reserve" troops from Central and Western Siberia were to reach Manchuria before the Xth and XVIIth Army Corps came from Europe. These "reserve" troops were, as I have said, to form four divisions of infantry, of which one, the first, was at Harbin in April, and it was then intended to make this division and the 4th Siberian Division into one army corps, and the 2nd and 3rd into another, the 4th Siberian. But the fifth battalions of the Siberian regiments were to be utilized in forming the 4th Division, and some of them were still on railway protection duty in Trans-Baikalia, in May, when the division ought to have been already in existence. As a matter of fact the 4th Division never appeared on the scene of operations.

Those of the foreign officers who were best qualified to judge had imagined that Russia would have had a much larger force in Manchuria than was actually the case at the time just mentioned.

I had better, perhaps, observe that the details of the composition of a Russian army corps, the system by which "reserve" troops are mobilized and numbered, and all similar matters, are purposely excluded from this report, because they are not germane to the subject now being treated.

The advanced troops of the 2nd Siberian Infantry Division* arrived at Liao-yang on the 16th May, in pursuance of the viceregal, as opposed to the military plan of concentrating in southern, and not in northern Manchuria.

One of Kuropatkin's staff told me on the 18th May that the Commander-in-Chief was hoping that the Japanese would give him the time he required by not advancing on Liao-yang or Mukden for a couple of months or so.

Port Arthur had been isolated on land in May, and I joined the head-quarters of the 1st Siberian Army Corps, commanded by Lieut.-General Baron Stakelberg, on the 19th of that month at Hai-cheng, nearly forty miles south of Liao-yang.

When I arrived at Hai-cheng it was still the policy of Kuropatkin to await the concentration of the army before adopting active measures against the enemy. The 1st Siberian Corps was at the time at Hai-cheng, Ta-shih-chiao, which is the railway junction for Ying-kou, and at Ying-kou itself, Stakelberg's advanced troops being some fifty miles south of Hai-cheng, while, as yet, the Japanese were not showing any signs of advancing northwards along the railway. It had been already resolved that a Siberian Cossack cavalry division should be allotted to the 1st Siberian Corps, and two of its four regiments arrived at Hai-cheng on the 24th May. The cavalry then at Stakelberg's disposal numbered 24 squadrons, half being Cossacks, while the other half was composed of the Primorsk Dragoon Regiment, and a regiment of Frontier Guards.

The attempt to relieve Port Arthur by General Stakelberg's force had now been planned by the Viceroy, and an infantry brigade with two field batteries left Hai-cheng for the south on the 27th May, this being the first move in the operations of the 1st Siberian Corps. Another Siberian Cossack regiment, the 4th, reached Hai-cheng on the 28th May, but the remaining regiment of the promised Siberian Cossack division was sent off to the east to General Mishchenko, and the division was not formed as intended.

On the 6th June, a week before the battle, Stakelberg's head-quarters were at Wa-fang-kou, and he had there and to the south, 15 battalions, 20 squadrons, and 38 guns. The remainder of the 1st Siberian Corps, namely, 9 battalions and 32 guns, were some distance to the rear at Ying-kou, Hai-cheng, and Kai-ping. The general had wished to concentrate these troops also at Wa-fang-kou, but told me that Kuropatkin would not agree to this at the time. The Commander-in-Chief was of course in a very difficult position: there was a victorious Japanese Army at Feng-huang-cheng, the attempt to relieve Port Arthur was forced upon him by superior authority, and he

* When "reserve" troops are mobilized, they drop the term "reserve," and are styled, for instance, the "2nd Siberian Infantry Division," not "Reserve Infantry Division."—W. H. H. W.

had at the beginning of June only 124 battalions altogether at his disposal, with cavalry and artillery.

Major-General Samsonov had marched, at 6.30 a.m. on the 6th June, for Wa-fang-kou with seven squadrons and a battery of horse artillery, and on the 11th June the strength of Stakelberg's advanced guard was 6 battalions, 18 squadrons, and 14 guns. The battalions numbered about 650 rifles each, the establishment being 880.

On the 13th June, the Russian commander expected that he would have 25 battalions, 92 guns, and 22½ squadrons for the battle, which he anticipated would not take place for two days, instead of which the Japanese, estimated at two divisions, began their attack on the following day, when Stakelberg had available 18 battalions, 62 guns, and 20 squadrons, only a fraction of which were in action on the 14th June.

Tardy reinforcements were despatched, however, and arrived at Wa-fang-kou late in the night of the 14th-15th June, and also during the forenoon of the 15th June, when the battle was raging along the whole line. Hence it happened that Stakelberg had, before the battle was over, 36 battalions, 20½ squadrons, 88 field and 12 horse artillery guns. A Siberian infantry regiment, lent to him for the 15th June, rejoined its army corps the 4th Siberian,* soon after the defeat, while the eight battalions forming the 2nd Brigade of the 35th Division of the XVIIth Corps were also withdrawn, so that Stakelberg was left with his own 24 battalions and his mixed cavalry force.

General Kuropatkin arrived from Hai-cheng on the 20th June at Kai-ping, where the 1st Siberian Corps was then lying, and one of his aides-de-camp told me that the Commander-in-Chief had around Ta-shih-chiao, besides the 1st Siberian Corps, the eight battalions of the 35th Division, the 2nd Siberian Corps (5th East Siberian Rifle Division and the brigade of the 31st Infantry Division), the 4th Siberian Corps and four battalions taken from Count Keller's force in the east; the number of battalions amounting, therefore, to 88. In addition to these troops the leading troops of the Xth Army Corps, the first reinforcements to come from Europe, were due to reach Liao-yang also on the 20th June.

Stakelberg's cavalry was then at Hsiung-yueh-cheng, about 35 miles north of Wa-fang-kou, his rear guard was half-way between Kai-ping and Hsiung-yueh-cheng, and his main body was at Kai-ping.

The Russian army under Kuropatkin was thus distributed in three groups, namely the southern, the central, and the eastern, the Commander-in-Chief being with the second one. On the 25th June the distribution and strength were as follows: The 1st Siberian Corps formed the southern group, and was

* This army corps was composed of the 2nd and 3rd Siberian Divisions.
—W. H. H. W.

in a fortified position seven and a half miles south of Ta-shih-chiao. Of the central group, the 2nd Brigades of the 31st and 35th Divisions, two infantry regiments of the 4th Siberian Corps, and two Ural Cossack Regiments, to which were attached the 11th and 20th Russian Horse Artillery Batteries from the Warsaw District, were at Ta-shih-chiao. Nine miles south-west of Hai-cheng, which is about twenty miles north of Ta-shih-chiao, was the 2nd Siberian Corps, now consisting only of three out of the four regiments of the 5th East Siberian Rifle Division. The 1st Brigade of the 31st Division, and the Verkhne-Udinsk Siberian Infantry Regiment were at or near Liao-yang. The Staff of the 2nd Siberian Infantry Division (4th Siberian Corps), together with one brigade of that division, the 18th Regiment of the 5th East Siberian Rifle Division (2nd Siberian Corps), and the 21st East Siberian Rifle Regiment (6th Division with Keller) were at the Ta Ling* on the Hai-cheng—Hsiu-yen road. These troops, and those at Hai-cheng and Liao-yang also formed part of the central group, and so did the newly arrived portions of the Xth Army Corps, which, with its Ural Cossack brigade, was along the railway from An-shan-tien to Liao-yang. It will be noted that the 2nd Brigade of the 31st Division of the Xth Army Corps was detached at Ta-shih-chiao.

General Mishchenko, with 10 squadrons of Orenburg Cossacks and his original 18 squadrons, together with the Barnaul Infantry Regiment from the 4th Siberian Corps, was behind the Chi-pan Ling, a few miles south-east of Kai-ping.

Count Keller commanded the eastern group, and on the 14th June his 3rd East Siberian Rifle Division was on the line Lien-shan-kuan—Fen-shui Ling, which is on the road to Liao-yang; half the 6th East Siberian Rifle Division was at the Mo-tien Ling, its 21st Regiment being at the Ta Ling, and the 23rd Regiment at Sai-ma-chi with General Grekov's cavalry.

To further explain the above distribution and strength of the Russian army on the evening of the 25th June, it should be mentioned that two positions had been fortified, namely, one to the south, and the other to the south-east, of Ta-shih-chiao. The former was, as has been already stated, occupied by the 1st Siberian Army Corps, while the second was intended for the 3rd Siberian Infantry Division of the 4th Siberian Corps. At noon on the 25th June, Kuropatkin was at this south-eastern position, as were also the Staff of the 4th Siberian Army Corps, the Staff of the 3rd Division of this corps, both the brigade staffs of this division, and two of its regiments (Omsk and Tobolsk), that is to say, a brigade of eight battalions. The two European brigades at Ta-shih-chiao (from the 31st and 35th Infantry Divisions) were to be ready to occupy one or the other of these two positions. It is seen, therefore, that arrangements had been made to reinforce strongly the southern group.

* Ling means a pass in Chinese.

About this period, namely, the end of June and the beginning of July, there was a good deal of marching and counter-marching. The 33rd and 34th Regiments of the 9th Division of the Xth Army Corps reached Liao-yang about the 29th June, and were then sent on to Hai-cheng, about forty miles further south. But they were recalled to Liao-yang by train by the 2nd July, on their way to a position a few miles east of that city; of course the Japanese, under Kuroki, were the cause of this particular move, and the Russians never seemed, at that time, to have much knowledge as to the distribution and strength of their adversary's forces. The Xth Army Corps, therefore, was well scattered immediately after its arrival in the theatre of war. Organization by army corps was frequently, throughout the campaign, considered unsuitable, and was constantly abandoned except in name.

The first infantry reinforcements to come from Europe were those of this Xth Army Corps, and we see that, after hostilities had been in progress for five months, Russia had not yet placed one complete corps from her European territory in the field, although one quarter of the infantry of the Xth Corps had been in the Far East since 1903.

General Kuropatkin had, on the 10th July, at, and south of Mukden, where the head of the XVIIth Army Corps had just commenced to arrive on the 7th July, 148 battalions, 456 field guns, and a large force of cavalry, which composed his field army. In April his available field army had consisted of 76 battalions and 208 field guns, besides cavalry, so that in three months this force had been reinforced by 72 battalions (48 Siberian and 24 European) and 248 field guns, while the cavalry and horse artillery had also been augmented in the same period. To anticipate events, he received during the three succeeding months, namely, from the 11th July to the 10th October, when the battle on the Sha Ho commenced, a further 112 battalions and 424 field guns. From this it will be seen that reinforcements arrived more rapidly during the second period of three months, although the railway had also been obliged to transport in that time a proportionately larger quantity of stores and supplies, besides cavalry, and reservists to make good losses.

On the 10th July rations were required for 170,000 combatant and non-combatant non-commissioned officers and men, in round numbers, for the field army.

At the end of July, the XVIIth Army Corps was concentrating at Liao-yang, and General Kuropatkin considered, on the 12th August, that there was no longer any risk of Mukden being captured by Kuroki advancing from the east, as there were then 26 battalions around it, while the 5th Siberian Corps was also arriving there.

The effect which the Japanese movements in the eastern portion of the theatre of war had upon Kuropatkin's strategy is

well illustrated by the following facts: When the whole of the Xth Army Corps had come under Kuropatkin's command, it was dispersed by him in fractions, the corps commander and his staff being at Hai-cheng, that is to say, with the main body of the Russian army. The corps commander complained to the Commander-in-Chief of the state of affairs, and was sent back to Liao-yang to command his troops. Now, on the 10th July, the time in question, one of his brigades was at Hai-cheng under Kuropatkin's direct orders, one was with General Rennen-kampf's cavalry, a third was with Count Keller in the east, while the fourth and last was at Liao-yang, also under Kuropatkin's direct orders. The only concession made was in the case of the brigade with Keller, which was subject to the corps commander, who was at Liao-yang, be it noted, for "purposes of interior economy" and to Keller for "purposes of military operations." There was also at Liao-yang a regiment of Cossacks, attached to the Xth Corps; it was under orders to go to Hai-cheng, with the exception of one squadron, half of which was to go as escort to the Grand Duke Boris Vladimirovich, who was about to earn his Cross of St. George under Keller, prior to returning home, and the other half was all that remained for the general of the Xth Army Corps to command!

One can understand that organization by army corps is often unsuitable under certain conditions, but to scatter troops in the manner just described seems to have been in no way justified, nor was this case, if an extreme one, by any means singular during the campaign.

The 2nd Independent Cavalry Brigade, composed of the 51st and 52nd Dragoon Regiments from Russia, had reached Yen-tai, about sixteen miles north of Liao-yang, by the beginning of August.

By the middle of that month the 5th Siberian Army Corps had nearly all reached Mukden; it was to be followed by the 1st European Corps from St. Petersburg, and then by the 6th Siberian Corps. The 1st Corps joined the army at the end of August and beginning of September, and the 6th Siberian Corps came in the first fortnight of October.

Signs were not wanting in August that a general attack by the Japanese would shortly be made. General Kuropatkin had lost Ying-kou and the railway junction at Ta-shih-chiao towards the end of the preceding month, and had since retreated to the north of the strongly fortified position at An-shan-tien. He did not intend to accept battle there, the position being too small for the force at his disposal, but to retreat and fight a general action at Liao-yang.

The 1st Siberian Corps, under General Stakelberg, was to cover the retirement at An-shan-tien. In order to do this Stakelberg, who now had, besides his 24 squadrons and 2 horse artillery batteries, only his own corps, namely, 24 battalions, 64 field guns, and 8 Maxims, divided the position into sections,

and the army corps into detachments to occupy them. The cavalry division was also broken up and, with infantry and guns, formed into detachments. I should mention that one of his infantry divisions only had the losses which it suffered at Wa-fang-kou in June made good by the 21st August, while his other infantry division was not made up to strength before the battle of Liao-yang, where its battalions averaged barely 600 rifles, a deficiency of over 25 per cent.

The outposts of the 4th Siberian Corps, which was immediately to the east of the 1st Corps at An-shan-tien, were also placed, until the retreat began, under Stakelberg's orders, and his whole line of front extended for a distance of about eleven miles, to defend which he had, in round numbers, 18,000 infantry, 64 field and 12 horse artillery guns, besides cavalry.

On the 16th August I heard that General Stakelberg, in discussing the situation with his chief of the staff, had said that in a day or two Kuropatkin would have 120 battalions on his eastern front (Xth and XVIIth Corps, 5th Siberian Corps, and two rifle divisions) and 84 battalions on his south front (1st, 2nd, and 4th Siberian Corps), making a grand total of 204 battalions.

These figures gave Kuropatkin a combatant total of about 180,000 men, some of the units being considerably below their establishments. Part of the 1st European Corps from St. Petersburg also reached Liao-yang about the 29th August, so that the Russian Commander-in-Chief had then available for the great battle 214 battalions and 656 field guns, besides cavalry, horse artillery, some heavy guns and engineers; but I heard afterwards that only a little over 400 guns were in action.

I have already mentioned that the 1st Division of the 1st Siberian Corps had been completed with men a few days prior to the retreat from An-shan-tien to Liao-yang; it was in action on the 30th and 31st August, and, before going into action for the third time on the 2nd September, I noticed that its companies, as was, of course, to be expected, varied considerably, some being 200 strong out of an establishment of 220 rifles, while some had less than 80 men, others again having from 150 to 160 rifles.

When the Russian army retreated to Mukden from Liao-yang, in September, some of the army corps remained south of the Hun Ho, but the 1st Siberian Corps, after all it had gone through since June, was withdrawn to the north bank of that river, where it entrenched itself very strongly, having on its left (east) the 3rd Siberian Corps, forming the extreme left wing of Kuropatkin's force. This corps had likewise suffered a great deal ever since May, commencing with the battle on the Ya-lu, where some of it had been engaged. Of course, cavalry was pushed out to the front and flanks of the Russian army round Mukden.

The 1st Siberian Corps had formed the eastern flank and rear guard of the army during the retreat to Mukden, which it reached on the evening of the 7th September. The distribution of the forces after the battle of Liao-yang until Mukden was reached was as follows* :—

3rd-4th September: 1st Siberian Corps, Ta-lien-kou; 3rd Siberian Corps, Li-lien-kou; XVIIth Army Corps, San-tao-pa; Xth Army Corps, Hsiao Miao-tzu; 4th Siberian Corps and the 2nd Siberian Corps, Tang-chia-pu. I do not know where the 1st European and the 5th Siberian Corps were.

5th September: 1st Siberian Corps, Hung-pao-shan; XVIIth Army Corps, Shih-li-ho; 4th Siberian Corps, Wu-li-chieh; 2nd Siberian Corps, Lang-tzu-chieh; 3rd Siberian Corps, Chiang-hu tun; Xth Army Corps, Sha-ho-pu.

6th September: 1st Siberian Corps, Ta Hsiang-tun; XVIIth Army Corps, Hsiao Hsiang-tun; 2nd Siberian Corps and 5th Siberian Corps, Ssu-chia-tun; 3rd Siberian Corps, Huang-mu-fen; Xth Army Corps, Hun-ho-pu; 1st European Army Corps and 4th Siberian Corps, Mukden.

On the 16th September the General Officer commanding the 1st Division of the 1st Siberian Corps had received some reservists from Harbin, which gave him a total combatant and non-combatant strength of 8,934 all ranks.

By the 26th September the 9th Division of the 1st Siberian Corps had been made up to 10,200 all ranks, but some of the men who came to complete this number were drafted from the 5th Siberian Corps. The 1st Corps, therefore, was again about 19,000 strong, or about 5,000 men under strength.

Matters remained quiet on the whole for a few weeks, when Kuropatkin, not having been attacked, resolved to assume the offensive, and he accordingly divided his army into three smaller armies, or, as they were termed, "groups." This distribution dated from the 5th October, when the advance from Mukden commenced. The western group was under the command of General Bilderling of the XVIIth Army Corps, and comprised the Xth and the XVIIth Army Corps, and the 5th Siberian Corps. The eastern group consisted of the 1st, 2nd, and 3rd Siberian Corps under Lieut.-General Baron Stakelberg, while the 1st European Corps and the 4th Siberian Corps under General Baron Meyendorf, of the 1st Corps, formed the army reserve under Kuropatkin's direct orders. The 6th Siberian Corps was beginning to arrive, and was eventually in time for part of the battle of the Sha Ho.

The eastern group, to the head-quarters of which I was attached, consisted of 65 battalions, 160 field guns, 12 6-inch howitzers, 32 machine guns, General Samsonov's Cossack cavalry, and the Primorsk Dragoon Regiment. Of this force the 2nd Siberian Corps had only seventeen battalions (5th East Siberian Rifle Division, and five battalions of the "reserve" troops).

* See Map 92.

Four out of the nine East Siberian rifle divisions were in Port Arthur and Vladivostok, so that the 5th Division was an odd one, the 1st and 9th forming the 1st, and the 3rd and 6th the 3rd Siberian Corps. The 2nd Corps was continually changing in composition throughout the campaign, its one permanent unit being the 5th Rifle Division, or part of it.

On the 14th October, the fourth day of the battle of the Sha Ho, the eastern group was reduced to comparative impotence. The situation on Kuropatkin's right and centre had become so serious that his reserves had been engaged, and, in order to form a new one, he took away 25 out of Stakelberg's 65 battalions, together with several batteries, and the Primorsk Dragoons. In effecting this redistribution of his forces, the Russian Commander-in-Chief did not take an entire corps from the eastern group, but divisions, or portions of various divisions. The eastern group had, meanwhile, suffered heavy losses in futile attacks, but the Japanese left it and the remainder of the army in comparative peace after the 21st October until the Russians molested them unsuccessfully in January 1905, when General Gripenberg, who had been about one month with his Army, the Second Manchurian, retired precipitately to St. Petersburg.

The VIIIth Army Corps, from the Odessa district, began to arrive at Mukden in November, and proceeded to join Kuropatkin, who was strongly entrenched south of that city. The companies of those regiments of the VIIIth Corps which I saw were very strong, varying from 200 to 219 rifles out of an establishment of 220.

At the beginning of December, when I left the army to return to England, the distribution and strength of the Russian army should be stated. This had suffered very heavily indeed during the ten or eleven days of continuous fighting on the Sha Ho, in October, but the losses in these as in other actions form the subject of a separate section under the head of "Losses." It will suffice to say here that the Commander-in-Chief, at the end of October, required from 90,000 to 100,000 men to complete the establishment of the troops which took part in the battle of the Sha Ho, prior to which he had received at Mukden, in September, some 60,000 reservists to make good former losses.

On the 1st December the Russian army was distributed in the following order from right to left (west to east) just south of Mukden:—

- (a) *Right Wing*.—The Orenburg Cossack Cavalry Division; the Don Cossack Cavalry Division; 5th Siberian Army Corps (54th and 61st Divisions*); XVIIth Army Corps (3rd and 35th Divisions); Xth Army Corps (9th and 31st Divisions); half of the 5th East Siberian Rifle Division; 1st European Army Corps

* This is a new grouping of divisions.

22nd and 37th Divisions). In rear of this right wing, and forming a reserve under Kuropatkin's direct orders, were the 6th Siberian Corps (55th and 72nd Divisions), the VIIIth Army Corps (14th and 15th Divisions), which had practically arrived, and General Mishchenko's cavalry.

- (b) *Left Wing*.—The 4th Siberian Corps (2nd and 3rd Siberian Divisions); the 2nd Siberian Corps (half the 5th East Siberian Rifle Division and the 1st Siberian Division*); the 3rd Siberian Corps (3rd and 6th East Siberian Rifle Divisions); the Siberian Cossack Cavalry Division; Rennenkampf's cavalry on the extreme left. The 1st Siberian Corps (1st and 9th East Siberian Rifle Divisions) formed the reserve for the left wing, the whole of which, with the exception of Rennenkampf, who was independent, comprised the "First Manchurian Army" under General Lenevich, whose head-quarters were at Huan-shan, a few miles south-east of Mukden, on his right wing, so as to enable him to keep in close touch with the Commander-in-Chief.

The 71st Infantry Division, which belonged previously to the 5th Siberian Corps, was taken away from it, and scattered in fractions.

On the 1st December 1904, the date on which I left the army, the two army corps composed of East Siberian Rifle Divisions had about 10,000 effective combatants each, and the other corps, which had more battalions, numbered about 15,000 combatants each. In both instances, therefore, the army corps had about half their proper number of effective combatants, but reservists were arriving to make good casualties. It may be said, then, that on the date mentioned, Kuropatkin's army was still short of its establishment to the extent of a force sufficient for the combatant establishment of two and a half or three army corps from European Russia. He then had available about 160,000 rifles (316 battalions), and 1,056 guns, besides cavalry, engineers, and artillery, other than field, of various types. In February 1905, after allowing for sickness, men taken from the ranks for transport duties, and the losses suffered by General Gripenberg's army, I think the Russian Commander-in-Chief must have had available at least 300,000 effective combatants of infantry, artillery, and engineers, besides about 20,000 cavalry, but this arm has been so inefficient that it need scarcely be taken into account.

Merely as a matter of organization, I think the Russian army corps of normal size, namely, 32 battalions and 14 or 16 field batteries, is too unwieldy a unit for modern battles, owing to the extension now necessary.

* This is a new grouping of divisions.

(4) The Battle of Te-li-ssu (Wa-fang-kou); the
14th and 15th June 1904.

REPORT by Colonel W. H.-H. WATERS, C.V.O., C.M.G.

General Kuropatkin, the Russian Commander-in-Chief, had intended to concentrate a large army before assuming the offensive, but his intentions were overruled, with the result that he was ordered by the Viceroy, Admiral Alexeiev, to attempt the relief of Port Arthur in June 1904. General Kuropatkin was compelled to keep a large proportion of his army within reach of Liao-yang, as the Japanese were in force to the south-east of that city and only six marches from it. The ill-fated attempt at relief was, therefore, entrusted to the southern portion of the Russian army, namely, the 1st Siberian Army Corps, under Lieut.-General Baron Stakelberg, who was reinforced by the 2nd Brigade of the 35th Infantry Division, which had arrived in the Far East from Russia several months previously, and was considered by the Russian Commander-in-Chief as part of the flower of his army.

In May the 1st Siberian Army Corps was encamped round Hai-cheng,* about 40 miles south of Liao-yang, and I joined its head-quarters there on the 19th of that month. General Kuropatkin came to Hai-cheng on the 28th May in order to discuss the arrangements for the relief with General Stakelberg, and the first movement of troops towards the south commenced on the 30th May. General Stakelberg and his staff reached Kai-ping, 38 miles south of Hai-cheng, on the 31st May, and about three-fourths of his proposed force assembled at that place within the next two or three days by route march. On the 31st May the three battalions of the 36th East Siberian Rifle Regiment were despatched by train towards Wa-fang-kou, in order to keep that place from falling into Japanese hands. Other troops were also sent thither during the first days of June, and on the fifth of that month I accompanied General Stakelberg, who removed his head-quarters to Wa-fang-kou.

He had not, however, been given a free hand; he was to make every effort to relieve Port Arthur, and naturally wanted first to concentrate all his forces. Although the Russian Commander-in-Chief had wished to undertake no offensive operations before August because he considered himself too weak to do so,† he would not permit Stakelberg to concentrate that fraction of the army with which the risky attempt at relief was to be made. The latter was not allowed to call up from Ying-kou the two battalions of the 9th Division of the

* See Map 89.

† General Zassulich had disobeyed Kuropatkin's instructions in accepting battle on the Ya-lu on the 1st May 1904.—W. H.-H. W.

1st Siberian Army Corps, which were stationed at that place under Major-General Kondratovich, one of his two divisional commanders, nor five other battalions of the same division, which only counted twelve in all. These five battalions were likewise left by order of the Commander-in-Chief, around Ta-shih-chiao, about 60 miles to the north of Wa-fang-kou. On the 12th June, however, two days only before the battle began unexpectedly, General Stakelberg visited Kuropatkin at Kai-ping, and at last obtained permission to concentrate his command. He returned to Wa-fang-kou from Kai-ping at 1 p.m. on the 13th June, but, before that hour, a telegram had been received from the officer commanding the advanced guard at Wa-fang-tien, 20 miles south of Wa-fang-kou, to say that the Japanese were advancing from Pu-lan-tien, 20 miles south of Wa-fang-kou, along the railway. There had been, of course, intermittent cavalry skirmishing with small bodies of Japanese for some days previously.

13th June. On the 13th June, then, General Stakelberg had assembled round Wa-fang-kou the twelve battalions of the 1st East Siberian Rifle Division, five battalions of the 9th East Siberian Rifle Division, the eight battalions of the 2nd Brigade of the 35th Infantry Division, the thirty-two guns of the 1st East Siberian Rifle Division, the thirty-two guns of the 9th Division, and sixteen guns of the Brigade of the 35th Division, a total of 25 battalions and 80 field guns, besides a score of Cossack squadrons with 12 horse artillery guns.

I accompanied General Stakelberg during his final inspection of his selected position in the afternoon of the 13th June. It was situated about three miles south of Wa-fang-kou, on both sides of the railway. Considering the hilly nature of the country, I think the position was as good a one as could have been chosen. It was about three and a half miles in extent, say a little over 5,000 men to a mile. The right flank rested on some small hills with a narrow valley in front, the centre was in a flat plain through which runs the railway embankment to Port Arthur, and the left was on some steeper but not high hills. The field of fire in front of the left was considerably better than that opposite the right or western flank. Redoubts had been constructed on the Russian left, and at 6 p.m. infantry were making shelter trenches on the right flank. These were placed on the front or southern slopes. As a rule they were about 9 inches deep, 36 inches wide, and had a parapet about 15 inches in height, made with the excavated earth and shrubs stuck in it, the hills on the right being thickly covered with bushes from eighteen to twenty-four inches high. When twenty-five yards or so in front of such a trench, it was not to be noticed at a casual glance. General Stakelberg returned to his head-quarters at Wa-fang-kou by 8.30 p.m. He told me that he did not propose to occupy the whole of the position at first, but to hold the left with three battalions and the right with two.

It may be asked why the general, being engaged in a forward movement, prepared a position for defensive purposes only. The answer is that the Russians, invariably throughout the campaign, expended an immense amount of labour in fortifying positions as they advanced, and General Stakelberg was one of the chief exponents of this system. Until the Russians abandoned offensive tactics towards the south after Wa-fang-kou, General Stakelberg fortified, sometimes very strongly, no fewer than five positions in the course of six weeks, and only used one of them. The Russians, so to speak, made themselves the slaves of positions which still further detracted from their inherent want of mobility.

Time had not permitted Stakelberg to do very much in the shape of field fortification at Wa-fang-kou, and, besides, he told me, the day before the first action there, that he did not believe the Japanese from Pu-lan-tien were making more than a reconnaissance in force. Nor did he believe the reports of his cavalry that they were advancing, on the 13th June, with some 20,000 men; on the contrary, he told me that he considered these numbers "a good deal exaggerated."

On the 14th June* the artillery, with Stakelberg's advanced guard, was in action, not far south of the Russian position, at 8.30 a.m., and at 9.0 a.m. it was still nearer to the Russian left. Shortly afterwards, three of the four batteries of the artillery belonging to the 1st East Siberian Infantry Division came into action on the Russian left, but firing ceased at 11.30 a.m. and did not begin again until 1 p.m. At 2.45 p.m. I accompanied General Stakelberg to the left of the position, where the Russians, in spite of a good many casualties, continued to hold their own, but this is all that can be said. The action died out about 7 p.m., having been confined entirely to the Russian left flank, but at 9.15 p.m., a Cossack battery of horse artillery on the right flank opened fire for a short time.

On that night, the 14th-15th June, the Russian general realized that the Japanese had anticipated him by one day, but although Kuropatkin had at last promised that six battalions of the 9th East Siberian Rifle Division should reach Wa-fang-kou on the morning of the 14th June, they had not arrived at 9.30 p.m. on that day. On the morrow, it was intended to hold the Japanese centre and right with six battalions of the 1st East Siberian Rifle Division, and make a counter-attack against the enemy's right with the remaining six battalions of the 1st Division and the eight battalions of the 2nd Brigade of the 35th Infantry Division. The last-named troops were accordingly moved to the Russian left on the evening of the 14th June, Stakelberg's conviction being, that because the Japanese had only attacked his left on that day they would direct their principal efforts against it on the following one. Some months later an officer of Kuropatkin's staff told me that he was on

* See Map 90.

duty on the 14th June, and received from Stakelberg himself the report of the latter by telephone on the events of the first day's battle. This officer told me that Stakelberg then reported the movement of the eight battalions (his reserve) to his left, because his left had been strongly attacked, and this was criticized as the "unpardonable error" in Stakelberg's plans. As will be seen presently, if Stakelberg had not been kept in the dark by his chief staff officer he would have had ample time to move his reserves towards his right, when victory instead of defeat might have been his lot. Apart from his tactical error in massing his main forces on his left prematurely, he was woefully misled, or, rather, kept in the dark, by a trusted confidant who was his real chief of the staff. About 9.30 p.m. on the 14th June I was present when this officer received a report from Major-General Samsonov, who commanded the advanced troops, that the Japanese were moving large forces westwards with the apparent intention of moving against Stakelberg's extreme right. Thinking that Samsonov's report must be wrong, as the Japanese had attacked only the Russian left on June 14th, he said no word about it to his general! This fact was only elicited at a subsequent inquiry held by order of Kuropatkin, after the crushing defeat of the Russians.

15 June. The remainder of the night of the 14th-15th June passed quietly, but the Japanese guns opened fire soon after 4 a.m. on the Russian left on the 15th June. The artillery duel continued until about 9 a.m., when there was a lull. Meanwhile, at 6.15 a.m., six battalions of the 9th Division, which should have arrived twenty-four hours previously, came in by train from the north. They consisted of the 34th and 35th East Siberian Rifle Regiments, and were despatched towards the Russian right, which was then evidently to be attacked by the Japanese, and which was at the time protected only by the 36th Regiment. At 10 a.m., the hour which Stakelberg had reckoned upon for his counter-attack from the Russian left, the artillery on both sides became engaged in a furious struggle, which lasted without a moment's interruption until 10.45 a.m. The Japanese employed both shrapnel and high-explosive common shell, and the latter, I was told, did a lot of damage in the redoubts on the Russian left. The losses on that side were very great indeed. Many of the Japanese shrapnel, fortunately for the Russians, burst extremely high, and several were blind; nevertheless the total effect of the Japanese guns was surprisingly great, showing how well the gunners had been trained.

At 11 a.m. two battalions of the "Tobolsk" Regiment (Siberian "reserve" troops from the 4th Siberian Army Corps) arrived by train, and were also despatched immediately towards the Russian right. At 11.25 a.m., before these two battalions had reached the ground they were to occupy, it seemed to me that they would not be able to restore the Russian fortunes. At 11.40 a.m. the musketry fire on our right became very

intense, and at 12.45 p.m. the battle was really lost. The infantry began to retreat in very good order from the right, where one field battery on the sky line still held its ground. It seemed as if the Japanese purposely ranged many of their shells a few hundreds of yards down the hill behind the battery in order to destroy the teams. General Stakelberg carried out the retreat with great skill, but the losses were heavy, the enemy being able to fire with great effect from the hills at the troops retreating in the plain.

General Stakelberg had remained on the right, the weak point of his position, and if the Russian army had been instructed in signalling, the losses during the retreat would have been much less than they were. Matters had been going quite well for the Russians on the left wing, and some of their troops had pushed forward against the enemy; but the Japanese attack on the Russian right was the first to make itself strongly felt. Therefore as no signalling arrangements existed, and as there had not been time to instal telephonic communication in the Russian position, an orderly officer had to ride some four miles to General Gerngross, who commanded the Russian left flank, to order him to retreat. By the time Gerngross was able to withdraw his troops a good deal of time had elapsed and they suffered very much in consequence.

The Japanese at Wa-fang-kou owed their victory really to their artillery, which shows how essential it is to have that arm very highly trained. Instead of considering the moral effect of artillery as being its prime factor, and its physical effect as a secondary factor, a theory often propounded, I am convinced that artillery can, in great battles, be made to play the decisive rôle sometimes, and a very important one always, a belief which applies to mountain as well as to heavier types of field guns.

I have had no opportunity as yet of learning what force of Japanese was actually present on the 15th June, but it appeared to me, and to other impartial observers, that it was little, if any, stronger than General Stakelberg's army. Since writing the above I have been told that the numbers on both sides were much about the same. Stakelberg had 34 battalions, 80 quick-firing field guns, 12 quick-firing horse artillery guns, 4 old pattern and useless mountain guns, 16½ Cossack squadrons, and 6 squadrons of Dragoons besides some Frontier Guards. The ground was not suitable for cavalry, even had this arm been, which it was not, efficient. It must be remembered that a considerable portion of Stakelberg's troops only arrived after the battle had commenced on the 15th June, but I imagine the result would have been the same had they all been at Wa-fang-kou in good time.

There seemed to be a want of unity of command and direction on the Russian side on the 15th June, and the artillery on the right wing was scattered. Stakelberg lost in the two

days' battle about twelve per cent. of his force in killed, wounded and missing, as well as thirteen guns.

Considering as a whole the events of the 14th and 15th June, the strong impression left on my mind on the evening of the latter date was that the Japanese were the better men, and, although the official journal of the Manchurian Army explained, with unintentional irony, that the catastrophe to the Russian Army had really cleared the air, and was, therefore, an undisguised blessing, the victory was a decisive one for Japan, and was principally due to her artillery. An old friend of mine in the Russian Army told me that, while excuses might legitimately be made for the defeat on the Ya-lu on 1st May, Wa-fang-kou could not be explained away. Subsequent battles have all, so far, emphasized his words.

(5) The Battle of Liao-yang: the 30th August to 5th September 1904.

REPORT by Colonel W. H.-H. WATERS, C.V.O., C.M.G.

Plate.

Battle of Liao-yang; movements of the
Japanese and Russian Armies - Map 93*

After the failure of the Russians, under Baron Stakelberg, to relieve Port Arthur in June, General Kuropatkin abandoned further offensive operations. Apart from minor movements, between the 16th June and the latter end of July, which resulted in the Japanese gradually pushing back the south front of the Russian Army, there was no decisive military event to chronicle until the opposing armies met at the battle of Ta-shih-chiao on the 24th July. The 1st Siberian Army Corps was on the right or western flank; only its artillery was really engaged, and that at long or medium range. But the Japanese threatened to cut the Russian communications, and Kuropatkin's Army (he was away on the eastern front at the time) was ordered to retreat by General Zarubaiev. The final result of the movements, which was then carried out, was that the main Russian army, under Kuropatkin, lay around An-shan-tien, about forty miles north of Ta-shih-chiao, in the first days of August. The security of the Russian force was entrusted to General Stakelberg, who had under his command not only his own, the 1st Siberian Army Corps, but also the southern outpost line, which was composed partly of troops from other corps.

On the 11th August the Japanese appeared to be again feeling their way all along the Russian front preparatory to advancing in force, and outpost affairs occurred almost daily up to and including the 26th August. On that day, indeed, the fighting was of a sufficiently serious nature to induce or compel the outposts of the 4th Siberian Army Corps, under Major-General Baron Rehbinden, to retire northwards towards An-shan-tien, but I was told that they afterwards re-occupied their former positions.

Everything portended a battle at An-shan-tien on the 27th August, and General Stakelberg's troops bivouacked on the night of the 26th-27th August in the positions which they were to occupy. But, during that night, General Stakelberg received

* This map was sent home by Lieut.-General Sir Ian Hamilton, K.C.B., D.S.O., and represents the information collected by the Japanese General Staff with regard to the Russian movements.

unexpected orders to retreat to the Liao-yang position on the 27th August, where he confidently expected a decisive Russian victory. The roads were in a shocking state from the rain, but the 1st Siberian Army Corps reached its position about five miles south-west of Liao-yang on the 28th August. Its rear guard had been strongly attacked, and Major-General Rudkovski, who commanded it, was killed. The rear guard of the 4th Siberian Army Corps, which was just east of the railway from Liao-yang, was also attacked and retreated with considerable loss. The 1st Siberian Army Corps was marching west of the line. The Japanese guns on the high crests were very effective and after they had shaken the Russians, the Japanese infantry, which looked to be at least a division, streamed northwards down the hillside, making use of all available cover, and in very extended order when in the open.

The position of the 1st Siberian Army Corps at Liao-yang was on the extreme right of the Russian army on a series of hills which gradually decreased in height from west to east (right to left). The hill on the extreme right is 700 feet high,* and I will call it Cairn Hill, as it had a cairn or old Korean temple on the summit. From it could be seen the whole of the ground to the south and west of the Russian position, but the country was covered with very thick crops, often eight feet or more in height, the hills themselves being bare. These hills, or heights, are the extreme western spurs of the mountains, and the region to the west of the Russian right-wing is part of a vast plain extending to the Liao River and Ying-kou.

The ground which the 1st Siberian Army Corps was to occupy during the battle which was imminent was therefore very strong by nature, and its natural strength had been vastly augmented by the very judicious aid of field fortification, in the shape of deep and narrow trenches, gun pits, blinded galleries and excavations, in which infantry could remain in safety until required to man the trenches, and other methods in which the Russians are proficient. The trenches for infantry were placed in tiers on the crest and front slope of Cairn Hill, and on those heights which had only one line of trenches, these were placed on the front slopes. A few hundreds of yards from the foot of the heights were also some infantry trenches, likewise of very powerful section, being narrow, and deep enough for men standing up.

Of the two infantry divisions of the 1st Siberian Army Corps, the 1st Division was to occupy the right of the position, while the 9th was to the east (left) of it. Major-General Kondratovich, who commanded the 9th Division, told me the day before the first battle that the ground he was to occupy was much too extensive for the numbers at his disposal, but of course there was no help for this, as this Division had not been brought up to its establishment at the time.

* Shou-shan-pu.

To the east (left) of the 1st Siberian Army Corps was placed the 3rd Siberian Army Corps, which had been pushed back from the east towards the west, and reached its allotted ground on the night before the battle commenced. To the left of the 3rd Siberian Army Corps were placed the Xth and XVIIth European Corps in the order named. There were big gaps between the 1st and 3rd Corps, and also, I was told, between the Xth and XVIIth Corps. Thus the total extent of the Russian position, which was crescent-shaped, may have been ten or twelve miles. Kuropatkin also had available the 2nd, 4th, and 5th Siberian Army Corps, and ten battalions of the 1st European Army Corps. Many of the battalions, however, were much under strength, and the 2nd Siberian Corps had only one division of infantry instead of two. Stakelberg had about 20,000 combatants, 64 quick-firing field guns, 12 quick-firing horse artillery guns, and 8 machine guns, and his position was between three and four miles in extent.

On the 29th August the Japanese were feeling their way along the front of the Russian army, and attacked it about 5 a.m. on the 30th August. I accompanied General Stakelberg at that hour, and, after seeing some of his troops, we went to the top of Cairn Hill, which we reached by 6 a.m., and whence there was telephonic communication to his divisional commanders and to Army Head-Quarters. From where we stood, with the country on all sides spreading away in front of us, it was obvious that, if the Russian position could be taken, the Russian army would be irretrievably defeated, for there was an unfordable river with only a few bridges close behind it. The Japanese batteries, of which I only counted ten, attacking the position of the 1st Siberian Corps, were not concentrated, but were placed in various positions. They did not succeed in silencing any of the Russian batteries, and at 11.30 a.m. on the 30th August we saw the Japanese infantry come into action. It moved from a village surrounded by high crops, against Stakelberg's right, but it seemed to me at the time that its numbers were dangerously small for the attempt, and gave me the impression that the task was not considered likely to turn out a difficult one. Some hundreds of yards to the south-west of Cairn Hill was a trench lined with about a couple of hundred Russian infantry, standing up and showing only their heads. This trench was about 800 yards from the village, between it and Cairn Hill. The Russians in the trench waited until the Japanese, who were not being subjected then to artillery fire, were within about 500 yards, and well in the open on a bare, uncultivated stretch of ground, and then fired a volley. About thirty or forty Japanese fell in a bunch, but the remainder, who did not appear to be more than about two companies strong in the firing line, continued their advance in extended order, about five or six paces between each man. A small sheet of water lay between the attackers and the trench, and into this went some of the Japanese, nearly up to their waists. The Russians in the trench

then fired another volley, which killed and wounded several men, and the advance was stopped. The Japanese then ran off to their own left to try and turn the trench from the millet crops in the west. So rapidly did they change their tactics that it seemed to me the men knew instinctively, owing to their training, what was the proper course to adopt without waiting for orders. They endeavoured to work their way to the right flank of the trench, and advanced, firing independently through the thick crops. But when they arrived at the edge of these, about 300 yards, perhaps, from the Russians, there was an open space, and, worse still, the trench was found to have been prepared for this eventuality, and to extend also in a north and south direction. The Japanese were checked and withdrew into the cover of the millet, where they were invisible. Presently, however, they renewed their attempt, but with the same result as before. This occurred several times, but the Japanese, plucky as they were, and reinforced from their reserves, failed to make any impression on the Russians.

Meanwhile the Japanese guns had been playing steadily on the Russian artillery and on the main trenches of the position, but some of the latter were not occupied, their intended garrisons being near at hand in bombproof cover.

Considering the importance of the position held by Stakelberg's force, it certainly seemed that the Japanese ought to have employed a much larger number of men to try and take it. The battle continued all day, and about 5 p.m. a big turning movement was made against the Russian right rear under cover of the crops. But this was detected in time, and some battalions sent from the general reserve at Liao-yang checked it. Still, it was rather a near thing.

The battle lasted until darkness set in, when firing died out gradually on both sides, with the result that Kuropatkin's army held its ground everywhere.

31st Aug. During the night of the 30th-31st August the Japanese made a desperate but unsuccessful attack on some trenches to the east of Cairn Hill, which were held by the 3rd East Siberian Rifle Regiment of Stakelberg's 1st Division, which lost very heavily indeed. At 3.30 a.m. on the 31st August, just as day was breaking, the Japanese followed this up by a very hot infantry fire, which gradually died away as their guns came into action. I accompanied General Stakelberg about 4.30 a.m. to see a brigade (six battalions) of the 2nd Siberian Army Corps which had been lent to him from the reserve for the second day's battle, and now formed his reserve. We then reached the summit of Cairn Hill at 6.15 a.m. At 6.30 a.m. the Japanese began to pour in a hot shell fire on a village which held the reserves for the trenches in the plain on the right flank. At 6.45 a.m. a Japanese battery also began to shell the north-west front and the summit of Cairn Hill, while Japanese infantry were also visible moving towards the north of our right flank so as to take the Russian army in rear. At the same hour a Russian battery opened an

accurate fire on the enemy, who was in the village which was in front of the trench on the extreme right, this trench being the one that had been attacked so often on the previous day. At 6.55 a.m. there were two Japanese batteries in action to the south-west of Cairn Hill, and one to the north-west of it. At 7.15 a.m. the Japanese infantry again attacked the trench which had resisted all its previous efforts, and continued still to resist them, persistent though they were. The force employed was too small. At 11.15 a.m. the Japanese battery north-west of Cairn Hill was forced to retire by the indirect fire of two Russian batteries just north of Cairn Hill. These two batteries had been in action in the open behind a ridge during the whole of the 30th August also, and the enemy had never been able to locate them, although it was evident that he had endeavoured to do so. At noon on the 31st August the Japanese were shelling the summit of Cairn Hill hotly from the plain. The Russians had some infantry there behind a breastwork, but the casualties were few.

It was now, however, evident that the situation of the 1st Siberian Corps was becoming very critical indeed. The attackers were not more numerous, I thought, than the defenders, but these had lost heavily, had been all night in their trenches, and had nothing but scraps or crumbs of bread to eat on the 31st August. General Stakelberg went down Cairn Hill at 12.35 p.m. in order to go to his reserve, namely, one brigade (19th and 20th Regiments) of the 5th East Siberian Rifle Division, which had been lent to him for the day. But on arriving at the place where it was to have been, no reserve was there. At 12.35 p.m. Stakelberg received an urgent note for reinforcements from Major-General Kondratovich, who commanded his 9th Division. In it the latter said he could not hold out much longer. Stakelberg, without the least sign of flurry, replied that he had no reinforcements to send, and that Kondratovich and his men must die, if necessary, at their posts. What had happened meanwhile, fortunately for the Russians as it turned out, was this: after Kondratovich had despatched his message, he came across the 19th and 20th Regiments, and ordered the officer in command to line the trenches of the 9th Division. This officer demurred, saying that he had Stakelberg's instructions to go elsewhere in reserve. Kondratovich, however, insisted, and the situation was saved. It took one hour for his message to reach Stakelberg, a delay which would have been greatly shortened had the Russians been instructed in signalling. The position of the Russians being crescent-shaped the Japanese began, at 12.40 p.m., to pour a very hot cross-fire of shrapnel on to it, which caused much loss, and General Stakelberg also received a report to the effect that the 3rd East Siberian Rifle Regiment of his 1st Division, which was entrenched on the lower slopes east of Cairn Hill, had suffered greatly and was showing signs of wavering. Stakelberg

had no reinforcement to send to it, but, on the occasion of the birth of the Heir Apparent a short time previously, the Emperor of Russia had been pleased to direct that all the officers and men serving in Manchuria should be classed as relations of his Imperial Highness. Stakelberg, then, having no troops in hand, despatched an aide-de-camp to the 3rd Regiment to exhort it to remember the honour conferred upon its members and to stand firm, which it did.

At 2.20 p.m. I heard that the Japanese had captured some of General Kondratovich's trenches, but that the Russians had recaptured them with the bayonet. About the same hour the enemy's guns were searching the ground well in rear of the trenches, apparently in the hope of catching the Russian reserves, and demoralizing the defence. This was a smart idea of the Japanese, for they selected the ground where our reserves, had these existed, would have been. But Stakelberg had now only one battalion left in hand, which lost a few men before it was moved to a safer spot, and a thousand rounds or so of shrapnel kept bursting where there were no troops, from fifty to 100 yards beyond where General Stakelberg and his staff were standing.

At 4.15 p.m. the engineer battalion of the 1st Siberian Army Corps began to construct a shelter trench, facing west, about a thousand yards in rear of the extreme right, so as to form a defensive position for a battalion in the event of the right having to give way.

At 4.30 p.m. General Stakelberg told me his losses had been very heavy, and the situation was still very critical.

From 4 p.m. to 5 p.m. the firing on both sides was much less heavy than it had been, but at 5.45 p.m. matters looked very bad, and Stakelberg sent instructions "not to retire from the position without orders." At that hour his guns were running short of ammunition, and sixteen limber loads (576 rounds) of shrapnel were sent for "urgently" for two batteries on the right flank. They had to be brought from the ammunition parks, and arrived about 7 p.m. At 6.40 p.m. the Japanese poured in a really terrific shrapnel fire all over the right of the position of the 1st Siberian Army Corps—indeed, it resembled musketry fire in its rapidity, as Captain Reichmann, the American military attaché, remarked to me at the time. This was the prelude to the last desperate attack of the Japanese, which, however, failed.

At 8 p.m. firing ceased everywhere, the battle having really commenced at 3.30 a.m. There had been some rain on both the 30th and 31st August, and the Russians had had nothing to eat on the 31st August, except some odds and ends of bread.

The 1st Siberian Army Corps was now pretty well exhausted. It had stood several furious attacks for two days and a night, but its gallantry was not to be excelled. The Japanese, no doubt, were equally tired, but the attackers had this advantage,

that they could select their own hour for advancing, whereas the defenders had to keep the very sharpest look-out the whole time.

But Stakelberg's corps was not to have repose that night. Orders had been received from the Commander-in-Chief for it to march at dark, by way of Liao-yang, to a point a few miles north of the river, and it began its retreat at 8 p.m., its place being taken by portions of the 2nd and 4th Siberian Army Corps. This relief was not observed by the Japanese, but just before midnight the latter, with marvellous energy, made an attack on the extreme right of where the 1st Siberian Army Corps, which had lost about 20 per cent. of its effectives during the two days' battle, had been.

The army corps retreated all that night and part of the next day, on bad roads, across the Tai-tzu River, and reached its destination, about four miles north-east of Liao-yang, during the course of the 1st September. General Stakelberg and his staff did not leave the battlefield until 12.45 a.m. on the 1st September, as the general always liked to see after things himself. We arrived north of the Tai-tzu River at 5.20 a.m. on the 1st September. **1st Sept.**

Meanwhile the extreme left of the Russian army was seriously threatened. General Kuroki had let go of the Xth European Army Corps and crossed to the north bank of the Tai-tzu. Now it is a very remarkable fact that, with scarcely an exception, nobody had believed the Japanese would dare to attempt such a stroke. The argument employed, and employed, too, by some of the foreign strategists present with the Russian army, was that, in order to parry such a blow, all Kuropatkin would have to do would be to cut the communications of the Japanese in his turn. They failed to appreciate the other fact that Kuropatkin, if he found his sole line of supply and retreat cut off, would be unable in practice, with an army by no means mobile, to do more than endeavour to get away if he could. It was very interesting to hear the arguments of those who derided the idea of Kuroki venturing to assail the Russian communications, for they omitted one essential point: they based their reasonings on the false assumption that the Russian army could at any time be moved without difficulty in any direction.

Kuroki, however, had not cut his enemy's communications before Kuropatkin realized his danger, whatever he may have thought previously, and the 1st Siberian Army Corps, well-nigh worn out, was to be moved to the left of the Russian army in order to attack the flank of that Japanese general.

On the 2nd September, therefore, Stakelberg's corps began to move off towards the east, soon after daylight. The general addressed some of his troops in my presence. He told them that it was now, at last, their turn to attack, and that they "*must*" conquer. He added that no men were to leave the ranks to **2nd Sept.**

help the wounded; the latter were to go by themselves to the dressing stations, or, if unable to do so, to remain where they fell.

The day was very hot and close, and the men, who carried their heavy packs, were evidently, and naturally, very tired. At 10.30 a.m. the 1st Siberian Corps was well on its way to take up a position on the left of the XVIIth Army Corps. The route lay to the south of the branch railway leading from Yen-tai station, on the main line, to the coal mines, which are situated about 15 miles to the north-east of Liao-yang.

After an exhausting march the leading troops of Stakelberg's corps came into action at 2.15 p.m. It seemed, indeed, as if their arrival was a surprise for the Japanese, for it was not until 3.20 p.m. that one of their batteries began to reply to the Russian guns. At 3.30 p.m. it was evident that there was a good deal of confusion in the leadership of the 1st Siberian Corps, as was shown by the marching and counter-marching which took place. Meanwhile an unexpected blow had befallen the Russians: a division of the 5th Siberian Army Corps, under Major-General Orlov, had been lent to General Stakelberg for this day, the 2nd September, in order to cover Stakelberg's left flank. It was on the field before the 1st Siberian Corps arrived, and Orlov's zeal outran his discretion. He was so anxious to help the XVIIth Army Corps, which was in action prior to the arrival of Stakelberg on the scene, that he attacked on his own account, and contrary to the orders he had received. The result was that Orlov's twelve battalions, which were, as General Stakelberg said, faced by only five Japanese battalions, were seized with a panic, and fled, thereby greatly compromising the situation.

As the battle progressed it was evident that the attackers, namely Stakelberg's corps, were making no headway, and this was still the case at 6.30 p.m., when their guns were continuing to fire towards the south and south-east. By 6.50 p.m. there was a hot infantry fight going on towards the south and east, and it was the Japanese who were then attacking. The 1st Siberian Corps gradually gave way, and at 8 p.m. the firing died out, Stakelberg having been forced to retreat about three miles.

I confess that I thought the corps was already beaten when it went into action. The ceaseless energy of the Japanese day and night, since the 26th August, was little short of marvellous, and, so far, they had carried out the theory of the textbooks to the letter, namely, to give their enemy no rest until finished with.

3rd Sept. The 1st Siberian Army Corps continued its retreat during the night, and shifted its position further towards the north during the day on the 3rd September. I happened to hear a report read to the Commander-in-Chief at 10 a.m. on the 3rd September, in which it was stated that the Russian left

was "completely exposed." Hence the fresh move of Stakelberg just mentioned.

The 1st Siberian Corps was again attacked on the night of the 4th/5th September, after orders had been issued for the retreat to Mukden. It was to form the flank guard of Kuropatkin's army, but the last of its troops did not succeed in getting away from their position on the branch line to the Yen-tai coal mines until the early morning of the 5th September. The situation was so serious that General Stakelberg, who had calculated on marching with his staff at 11.45 p.m. on the 4th September, did not start until 3.15 a.m. on the 5th September. The Japanese infantry attacked the rear guard very strongly at 12.30 a.m. on the 5th September, and Stakelberg remained with it to see what would happen. By the aid of its machine guns, however, the rear guard managed to hold its own, although with very heavy loss.

The 1st Siberian Corps had a flank guard action during its retreat on the 5th September, but was almost unmolested on the following day, and finally reached Mukden in the afternoon of the 7th September.

The Russian army was beaten but not crushed, and General Stakelberg always maintained that it could and should have attacked the Japanese on the 3rd September, but my opinion is that it would have been madness to do so.

**(6) The Battle of the Sha Ho: the 11th to 20th
October 1904.**

REPORT by Colonel W. H.-H. WATERS, C.V.O., C.M.G.

*Plates.**

Battle of the Sha Ho, general situation in October 1904,	Map 94.
" " 8th to 10th October 1904	" 94a.
" " 11th and 12th October 1904	" 94b.
" " 13th and 14th October 1904	" 94c.

After the retreat of the Russian army from Liao-yang to Mukden in September matters quieted down for a while. Both sides had been pretty well exhausted by the great struggle round the former city, and were obliged to bring up men, ammunition and supplies.

Nearly a month had elapsed without any serious hostilities having to be recorded, when the world was startled by Kuropatkin's proclamation announcing that he intended to assume the offensive forthwith. It seemed almost incredible that he should attempt so soon after his last defeat to turn the Japanese out of positions which he, with all his care, had not been able to hold. I happened, however, to be one of the few who were aware of the real reason for the intended move. A friend of mine of many years' standing, a Russian officer, told me on the 22nd September that if the Japanese did not advance soon, the Russians would. He said it is "urgently necessary for the army" to win one victory before winter sets in, so as to raise its "moral, which is very depressed."

The Russian army was now to be divided into "groups" which were, however, armies in fact if not in name. General Stakelberg, who had commanded hitherto the 1st Siberian Army Corps, was given the "Eastern" Army, which was composed of the 1st, 2nd, and 3rd Siberian Army Corps. It numbered 65 battalions, 160 quick-firing field guns, 12 quick-firing horse artillery guns, 12 6-inch howitzers, 32 machine guns, about a score of Cossack squadrons, and a regiment of Dragoons.

Some days before the advance towards the south commenced Stakelberg, who like most others felt confident of victory, addressed the troops of the 9th East Siberian Rifle Division. This division had only been formed a few months previously, and was to receive its colours on the occasion in question.

Stakelberg addressed himself more particularly to the reservists who had joined after the retreat from Liao-yang.

* These maps were sent home by Lieut.-Colonel C. V. Hume, D.S.O., R.A., and represent the information collected by the Japanese General Staff with regard to the Russian movements.

He said that "all Russia," and "foreign officers" as well, were eagerly watching events. He also alluded to the "shameful panic" which had overtaken the division of the 5th Siberian Army Corps at Liao-yang, when twelve Russian battalions fled before five Japanese ones—an unheard-of event.

General Stakelberg had most kindly invited me to follow his fortunes in his enlarged sphere of operations.

The Eastern Army marched southwards on the 5th October, and when we were about thirty miles to the south-east of Mukden on the 7th October, artillery fire was audible in the west. On the 10th October Stakelberg reached Pien-niu-lu-pu (H 3)*, an important junction where the roads from Mukden and Fu-shun unite, and which is situated about thirty-seven miles south-east of Mukden. His instructions were to seize the passes in the hills which are situated to the south of the Sha Ho. If he could do this he would threaten the Japanese communications, and render possible the recapture of Liao-yang.

The Eastern Army attacked on the morning of the 11th **11th Oct.** October, the 1st Siberian Corps being on the right, the 3rd on the left, while the 2nd, which had 17 battalions only, formed Stakelberg's reserve. The positions to be attacked were most formidable, for the passes run through high hills with steep crests. But Stakelberg, who did not know what force the enemy had in front of him, but, for some reason or another, believed it to be very small, was sanguine that nightfall would find him in undisputed possession of the passes. I must mention that the 4th Siberian Army Corps was immediately on the right of the Eastern Army.

As we marched along, soon after 6 a.m. on the 11th October, we heard the guns of this 4th Corps, and it appeared that the whole Russian army was to attack on that day. By 8 a.m. the guns of the 1st Siberian Corps were firing at the passes allotted to them, while the artillery of the 3rd Corps, further to the south-east, was doing the same. But at 8.30 a.m. there was a lull in the artillery duel, for which the Japanese had a much smaller number of guns than Stakelberg, and some of the infantry on both sides came into action. It was exceedingly difficult to locate accurately the Japanese positions, but some of the Japanese infantry had been well in advance of the crests at first, and had by no means relied upon a purely passive defence. Indeed they turned the 4th East Siberian Rifle Regiment in its attack during the forenoon. This delayed matters and caused the two batteries on the right of the 1st Corps to be given an escort of two battalions from the reserve, as these batteries would have had much difficulty, if unprotected, in getting away if attacked by infantry. At 10.40 a.m. the infantry of the 1st Corps, supported by its guns, pushed its attack on a pass situated at the top of some steep

* See Map 94.

and cultivated slopes, but at 11.25 a.m. it had made scarcely any headway.

Meanwhile the 3rd Corps on the left had come into the battle. It had been arranged that it should make its main attack at noon, simultaneously with the 1st Siberian Corps, and, at 11.45 a.m., the infantry and artillery of the former corps were very hotly engaged. The battlefield of the Eastern Army was, perhaps, six miles in extent. Matters still failed to progress with the 1st Corps, and at noon a battery was sent from the reserve to strengthen its centre. The two batteries (one field and one howitzer) in action on the right of the corps were still in the same position at 12.25 p.m. as they had been at 10 a.m., although the enemy was not replying to their fire. It seemed almost as if the 1st Corps were merely making a strong demonstration, but this theory was dispelled by the fact that, at 12.40 p.m. verbal orders were sent to the artillery on the left wing of the 1st Corps to push its attack hard. Before this order could reach its destination, however, the infantry of the centre of the left wing of the 1st Corps was making good progress towards the Japanese trenches. At 1.15 p.m. a Japanese battery opened fire against the right of the 1st Corps; nevertheless the Russian infantry there was getting on at 2 p.m. although its firing lines seemed too weak in numbers. At 2.15 p.m. things did not appear to be going happily; the weather had been very hot since 11.30 a.m., and the men were fully equipped in extremely heavy, hilly ground. At 2.30 p.m. the two batteries on the right of the 1st Corps were still in their original positions, and the Japanese had evidently very little artillery.

At 2.40 p.m. General Stakelberg, who had been with the 1st Corps since 10.30 a.m., had received no reports as to the progress made by his 3rd Corps. Two Japanese batteries came at last into action at 2.55 p.m. on the crest of the hills opposite the left wing of the 1st Corps, in order to reply to a battery of the latter, which, however, at once got the range of the Japanese guns, and soon caused them to cease firing for a time. The various attacks made by the Eastern Army had been disconnected (4.15 p.m.), but it must be remembered that the ground was very difficult indeed. Still there was no reason why the batteries should have been brought piecemeal into action. At 4.50 p.m. a report, written at 3.30 p.m., was at last received from the general commanding the 3rd Corps to say that his guns had been obliged to cease shelling the steep pass which they had been attacking because his infantry was too close to the top of it. This was good news, but the general added that his men had been, so far, unable to gain the actual crest, as the ground just below it was extremely slippery and steep. About 5 p.m. the three Japanese batteries, in two different positions, again opened fire, but soon ceased, the Russian guns being both too good and too numerous for them.

The infantry on the right of the 1st Corps had continued its attack, but at 5.20 p.m. I noticed that the advance was not a lively one—partly, no doubt, because the men were very tired, partly, perhaps, because they had little stomach for it, nor is this to be wondered at, all things considered.

Shortly before 6 p.m. on 11th October, General Stakelberg left the hill on the right of his army, where we had been since 10.30 a.m. The infantry of the Third Army had certainly gained a good deal of ground towards the crests of the passes during the day. Still one had the feeling that matters had not gone well, and Stakelberg himself did not seem satisfied with the result of the day's operations. But his staff, optimistic as ever, were quite pleased, and convinced that Stakelberg's five divisions would certainly in the course of the next few hours make an end of the Japanese, whose force they now estimated at three divisions.

Thus ended the first day's battle of the Eastern Army on the Sha Ho; it had not gained the fully anticipated victory, but neither had it been actually defeated. My impression, however, had been all day that Stakelberg's troops, in spite of the resolution of their leader, would never turn the Japanese out of their formidable positions. It was too much to expect, but Stakelberg was of a different opinion, for he ordered a general night attack on the Japanese positions. This, however, did not take place, as General Gerngross, who commanded the 1st Corps, said his men were so tired that they could not possibly attack.

Firing continued intermittently along the front of the Eastern Army during the night of the 11th/12th October, and at daybreak on the 12th October the artillery commenced the second day's battle. From 6 a.m. to 6.45 a.m. both the guns and the infantry of the 1st Corps were very heavily engaged, and a regiment was sent from the reserve at 7 a.m. to strengthen the right of that corps. At 7.40 a.m. the 1st Corps was still hotly engaged along its whole front. At 8 a.m. I heard that the 4th Siberian Corps, on the right of the Eastern Army, had been obliged to retire during the night, and the Japanese were reported to have sent reinforcements from Liao-yang to operate against Stakelberg's army, which in its turn despatched an infantry regiment to help the left of the 4th Corps.

At 9 a.m. a report was received from the 3rd Siberian Corps on Stakelberg's left that it was progressing slowly in its attack, while the 4th Corps, on his right, was also evidently engaged in a great struggle. At 11 a.m. the baggage of the Eastern Army was ordered to retreat northwards, and General Stakelberg made for a high ridge which lay between his right and the left of the 4th Corps. We reached it at 12.30 p.m., and matters were evidently in a very critical state, because Stakelberg trotted the whole distance, about three and a half miles, whenever the ground rendered this possible, a most unusual

thing for him to decide whether he was under fire or not. His reserve was likewise despatched to fill part of the big gap, some four or five miles wide, which existed between the 4th and 1st Corps.

From our commanding position on the high ridge it was apparent that Stakelberg had had the best cause for anxiety, for at 1.10 p.m. we saw that the Japanese opposite Kuropatkin's centre had broken it, and were then in possession of the most northerly line of heights previously held by the Russians, who had now been pushed back on to the plain. The right of Kuropatkin's army had likewise been forced some miles northwards, for we saw a continuous hail of the enemy's shrapnel bursting ten miles or so north-west of where we stood.

Stakelberg had ordered 12 battalions and 24 guns from his reserve to march, so as to close the big gap between his right and the left of the remainder of the Russian army which had thus been made. This movement required about four hours for its execution, besides which the force despatched was not nearly strong enough to be able to close more than a portion of the gap in question, which was, as I have said, four or five miles in width.

Briefly put, what had happened was this: The Japanese had contented themselves with holding the Eastern Army in check for two days, and had concentrated a force against the Russian centre, which they pierced at its most sensitive point, namely, the obtuse angle which the Eastern Army facing south-west made with Kuropatkin's right and centre, which faced originally south. But the Japanese did not, for some reason unknown to me, push the immense advantage which they had gained.

By 5 p.m. Stakelberg had practically no more reserves left, and the result of the battle on the 12th October was that the Russian army was in a critical position, south of a big river fordable only in places, which had but few bridges. The army, therefore, was in danger of being completely cut into two parts. When Stakelberg went into action on the morning of the 12th October he expected to be at Pen-hsi-hu (J 5) on the Tai-tzu River by the afternoon, instead of which, after suffering heavy losses, he was at nightfall where he had been two days earlier, namely, at Pien-niu-lu-pu (H 3), the junction of the roads leading from Mukden and Fu-shun.

13th Oct. The third day's battle commenced early on the 13th October, and at 8.40 a.m. the artillery attack of the 2nd Siberian Corps, which was originally the reserve of the Eastern Army, was in full swing in the big gap already mentioned. Stakelberg at first viewed the situation from a high peak, which I will call Temple Hill,* whence we saw our guns making very good

* This would appear from the subsequent narrative to be Wai-tou Shan on the Sha Ho (G 3).

practice at about 5,000 yards range, against a fairly equal number of enemy's guns, which were not, however, silenced.

At noon we arrived at the point in the gap where General Zasulich, who commanded the 2nd Siberian Corps, was halted. It was just at that hour that Zasulich's infantry began to deploy for attack against a big hill from which the Japanese had, as already mentioned, driven some of the 4th Corps. The Russian infantry advance was supported by some of its artillery, but there was another battery at hand which could also have been made use of, but was not employed. At 2.15 p.m. a Russian battalion had got close up to the part of the crest occupied by the Japanese, and at 2.35 p.m. succeeded in establishing itself there for a time.

Telephonic communication had been installed on Temple Hill in order to enable the general commanding Zasulich's artillery to direct the work of his batteries. At 3.35 p.m. Stakelberg noticed that one of Zasulich's batteries was retiring with its infantry escort down the valley, and inquired the reason. Zasulich replied that it was a battery lent from the 3rd Corps, and that there was not room for it with the two other batteries shelling the Japanese ridge. Stakelberg replied, "There is room not for three but for thirty-three batteries, with a little good will." The Russian attack was making no further progress at 3.50 p.m., and it seemed that the Japanese had again contented themselves with holding Stakelberg in check, while it was evident that a big battle had been going on all day against the remainder of Kuropatkin's army, whence a balloon ascended at 4 p.m. At 5 p.m. the Japanese attacked the 2nd Siberian Corps vigorously, and this attack increased in intensity at 5.55 p.m. The 2nd Corps held out firmly. Had it been smashed, the retreat of Stakelberg's army, which had been ordered by Kuropatkin, would have been cut off. As it was, however, the Eastern Army retreated, and bivouacked round Pien-niu-lu-pu (H 3) on the night of the 13th/14th October, where it was comparatively safe.

The fourth day of the battle on the Sha Ho was the **14th Oc** 14th October, and at 4.15 a.m. on that date heavy artillery fire was audible to the west, and this continued still at 6.15 a.m. General Stakelberg had intended to continue his retreat towards the Hun Ho on the 14th October, and one member of his staff said we might as well make for Harbin, as the Third Army had only advanced less than a mile and half in its attacks. This officer, however, was regarded as a very great pessimist. I was informed at 6.45 a.m. that the Japanese had pushed their attack very hard on the 13th October against Kuropatkin's centre, which had been reinforced, and had nearly broken the Russian army in two.

Meanwhile, on the 14th October, a desperate struggle was heard going on in the west, and Stakelberg stopped the retreat of his army. Judging by the sound of the guns the Japanese

seemed, at 11.30 a.m., to have pushed the Russian right some way northwards across the Sha Ho valley since the early morning, while at the same hour Stakelberg's rear guard—namely, the 2nd Siberian Corps—was also engaged with the enemy. By this time Stakelberg's head-quarters were at Kang-ta-jen-shan (H 2), a village situated about five miles north of Pien-niu-lu-pu (H 3). General Kuropatkin was evidently in a bad way; his general reserve, it appeared, had been employed to regain some of the positions captured by the Japanese, and the Russian Commander-in-Chief resolved therefore to form a new reserve for himself by taking away from the Eastern Army 25 battalions, some batteries, and the regiment of Primorsk Dragoons. These troops were ordered to march forthwith to their new destination in rear of the Russian centre, but Stakelberg, ever resolute, had another proposal to make. His army was on the flank of the Japanese moving against Kuropatkin, and Stakelberg sent a staff officer at noon on the 14th October to the Commander-in-Chief to ask permission to march the Eastern Army towards the west and attack the Japanese early on the following morning.

No telegraphic or telephonic communication had yet been re-established between the head-quarters of Kuropatkin and Stakelberg, so that it was 9 p.m. on the 14th October before the latter's messenger returned. The Commander-in-Chief held to his own scheme, however; and I do not believe that Stakelberg's men were any longer in a fit condition, morally or physically, to have carried his proposed enterprise to a successful conclusion.

15th Oct. On the 15th October the remnant of the Eastern Army moved about two miles further north, covered by its rear guard, and General Stakelberg made his head-quarters at Yang-mu-lin-tzu,* situated about thirty miles south-east of Mukden, where we had originally arrived, during our advance, exactly a week previously.

16th Oct. On the 16th October nothing of importance occurred as regards Stakelberg's force until 10.5 a.m., when we were startled by hearing hot musketry fire in a pass situated nearly three miles due east of Yang-mu-lin-tzu. This was a Japanese attempt to cut the communications of the Eastern Army, the main portion of which was south of that village. Troops were, however, hurriedly sent to reinforce the men holding the pass, and the attack, which was only a weak one, was repulsed. This was the first time during the battles on the Sha Ho that our eastern flank had been molested, and with one trifling exception it was the last until operations ceased for the winter.

Speaking generally, on the 16th October Stakelberg's force was north of the Sha Ho, and the Japanese were south of that small stream. At 2.25 p.m. on that date Stakelberg arrived at

* Three miles north-east of Kang-ta-jen-shan (H 2).

a hill situated about six miles south-west of Yang-mu-lin-tzu, and watched the troops of the 2nd Siberian Corps, which now consisted of only seven battalions and four batteries (the remainder being with Kuropatkin's newly-formed reserve), attack Temple Hill.* They occupied its summit at 4.20 p.m., but there were apparently no Japanese on it. The latter attacked it, however, on the 27th October, and carried it in broad daylight—a striking and quite unexpected achievement—the Russian garrison losing 33 per cent. of its strength.

From our position we could see a ridge, which had been held by part of Kuropatkin's centre in the forenoon, and had since passed into the hands of the enemy. At the time when our troops took Temple Hill very heavy artillery fire was visible or audible on the right and centre of the Russian army.

General Stakelberg, in the course of a conversation on the 17th October, said he had been restricted to making demonstrations during the two preceding days. His plan had been to place the Eastern Army on the Japanese right flank, and, when Kuropatkin should make his intended grand attack, for it to advance simultaneously with the Russian Commander-in-Chief. The action of the latter, however, in taking away 25 out of his 65 battalions prohibited the execution of this scheme.

An officer arrived from Kuropatkin's head-quarters at 10.40 a.m. on the 17th October, who said that the right and centre of the Russian army was holding its own, but that three days previously it had been considerably shaken.

The head-quarters of the Eastern Army remained at Yang-mu-lin-tzu from the 15th to 20th October, when they were moved two miles further south, back to Kang-ta-jen-shan (H 2) where they remained until the Russians were divided into the First, Second, and Third Manchurian Armies in December 1904.

The battles on the Sha Ho died out everywhere on the 20th October, having lasted for ten consecutive days.

So far as the old Eastern Army is concerned, the net result of the operations during the advance from the Hun Ho towards Liao-yang, in October 1904, was the complete failure of the enterprise, coupled with enormous losses in killed and wounded.

The exhaustion on both sides was very great, for the Russian and Japanese armies remained in actual contact along the Sha Ho from the 21st October until winter set in, without any great operations being attempted.

* Wai-tou Shan (G 3).

(7.) General Report on the Experiences of the Russo-Japanese War.*

REPORT by Colonel W. H.-H. WATERS, C.V.O., C.M.G.,
March 1905.

(7 i.) Ammunition (Artillery).

Prior to the introduction of quick-firing field guns, a field battery of eight guns and a horse artillery battery of six guns had twelve ammunition wagons each, whereas, during the campaign of 1904, a quick-firing field battery of eight guns had twelve ammunition wagons, but a similar horse battery of six guns only had ten wagons. In no battle hitherto have I seen or heard of a single instance of "rapid fire" being employed, yet the supply of ammunition mentioned above was not always sufficient. On the second day of the battle of Te-li-ssu (15th June 1904) I heard the Acting Chief of the Staff of the 1st Siberian Army Corps being informed, at 10.30 a.m., that only 1,400 rounds for twelve batteries remained in reserve in the "flying parks," which correspond to our ammunition columns.

The organization of "flying park brigades," which are subdivided into "flying parks," is explained in the War Office works on the Russian Army, and need not therefore be repeated here. For the present purpose it suffices to say that during the campaign of 1904 a tactical unit did not have a definite number of "flying parks" assigned to it. On the contrary, the system adopted was similar to Lieut.-General Sir W. Nicholson's arrangement of our transport in South Africa, and "flying parks" were allotted to tactical units according to the necessities of each phase of the war.

Speaking generally about the expenditure of horse and field artillery ammunition during the battles which I witnessed in 1904, I think that each gun should certainly have with it about 200 rounds. Ammunition columns may be prevented from being brought sufficiently close to the batteries owing to the state of the roads or other causes, and guns without ammunition for an hour or two may mean the loss of a battle, or worse. It must not, however, be assumed that the expenditure of field artillery ammunition is now invariably larger even in a great

* The medical portion of this report has been extracted and will be found in the volume of Medical Reports; the historical portion has been placed at the commencement of this volume.

battle than was the case before the introduction of quick-firers. The Russians estimated that six Japanese batteries on the 14th June, at Te-li-ssu, fired about 3,000 rounds, or 83 rounds per gun. On the 24th July, at Ta-shih-chiao, the 1st Siberian Army Corps was on the right of the Russian Army; its sixty guns had a good field of fire, and expended about 17,000 rounds during the fifteen hours' fight—that is to say, at the rate of 283 rounds per gun, or about one round in three minutes per gun. During the fierce battles at Liao-yang, however, on the 30th August and the three succeeding days, the Russian Army had rather more than four hundred guns in action; they fired about 120,000 rounds, which was at the rate of only 75 rounds daily per gun, and the battles lasted on each of three of those days for fifteen hours.

It may not be out of place to say a few words on the subject of expenditure of artillery ammunition by the Japanese, as it appeared to me. A Japanese battery would often fire all its six rounds so rapidly one after the other as to resemble a *feu de joie*, but then there would frequently be a pause, after which a similar series would be fired, and so on. On the whole, I should say that the Japanese average rate of fire was certainly as rapid as that of the Russian batteries, although the latter could have fired more quickly. The Russian system of ammunition supply worked in a satisfactory manner; the general rule was for two or more wagon bodies, at the discretion of the battery commander, to be placed at a convenient spot near or fairly near to the guns, and "carriers," each holding four rounds, would be taken from these wagon bodies in numbers sufficient to allow of two or sometimes three "carriers" being kept alongside each gun. The remaining wagons, and the wagon and gun limbers were taken from two hundred to five hundred yards away to more sheltered situations. Occasionally guns were supplied from the gun limbers. The formation of the ground had, of course, much to do with the distance maintained between the guns, and the wagon bodies, or the limbers, which supplied them. Sometimes the horses would be taken out. During the battle of the 31st August at Liao-yang I observed that the ammunition for two field batteries (sixteen guns), which were in gun pits, was brought up by hand for a distance of about one hundred and fifty yards or more from the wagons; the men brought it up in "carriers" and had to traverse slowly perfectly flat and open ground. The Japanese occasionally fired some shrapnel at them and at the wagons, but did scarcely any damage. I think it dangerous to have wagons with the guns in action. One or two wagons from a battery would go together to get a fresh supply of ammunition from the "flying parks," which were situated, as a rule, about a mile from the guns. These "flying parks" also carry small-arm ammunition for infantry.

I was never permitted to examine closely the contents of a limber or wagon, but the boxes are divided into layers, and

some space must be used for small stores and spare india-rubber buffers. I have, therefore, made the following calculations, which are corroborated, because a Russian field artillery officer told me on the 13th August 1904, that a field battery had 1,300 rounds with it, while my calculations amount to 1,296 rounds. Each ammunition wagon has two similar boxes, one of which forms its limber, while the other forms its body, the wagon and gun limbers being interchangeable. Each box is divided into four layers for three "carriers" in each layer, and each carrier holds four rounds. The number of rounds put in a limber box is 36, and in a wagon body 48. As each field gun has one and a half wagons* (twelve per battery of eight guns), the number of rounds with it is 162 (36 in the gun limber, and 126 with the one and a half wagons), and with a horse artillery gun 176, while the number of rounds per battery is 1,296 and 1,056 respectively.

The quick-firing ammunition is "fixed," the charge and the projectile forming one cartridge in a brass case. In the base of the cartridge is a cap, which is exploded by means of a striker set in motion by a trigger to which a lanyard is permanently attached. Shells are carried fuzed. Field and horse artillery batteries have shrapnel only.

In all the battles which I have seen in 1904 the number of premature bursts of Russian shrapnel from field and horse artillery guns amounted to, I am inclined to think, about 10 per cent. of the number of rounds fired. I have not been able to ascertain the exact cause of these mishaps, but incline to the opinion, for reasons which will be seen presently, that the fuzes were at fault. Two or three rounds would sometimes burst prematurely from the same gun. I also observed quite a number of rounds which burst in the bore. In this case it may be that the walls of the shrapnel were too thin to withstand the very high *initial* (not muzzle) velocity imparted to a shell when a quick-firing gun is fired. The Russian charge of smokeless powder is larger, for equal weights of shell, than with us, I think about 10 per cent. I believe the temperature of the products of explosion is several hundreds of degrees Fahrenheit less in the case of the Russian powder than with cordite, which means that the erosion would also be less. The quick-firing field gun cannot be fired until the breech has been properly closed, and, so far as I saw, the gunners were always very steady indeed.

Some say that the cause of the premature bursts was the great expenditure of ammunition during the earlier phases of the war up to the 24th July (battle of Ta-shih-chiao), and that a fresh supply of indifferent quality was made in a hurry. Apart from my belief that the available quantity of ammunition could not have been fired prior to the end of July, the fact

* Each gun should have two wagons according to the latest regulations.

remains that prematures occurred before that date with the original supply.

In the last paragraph but one I mentioned that the fuzes might very possibly have been faulty. The fuze for the quick-firing field gun is a combined time and percussion one. It is divided, for time purpose, into 130 divisions, each of which corresponds to 140 feet (20 *sajen*). Shrapnel can therefore be fired up to a range of 6,066 yards. On the right of the zero on the fuze is a hole which leads to the interior of the fuze, and on the left of the zero is such another hole. One of these holes comes into use when the fuze is to be employed as a percussion one, and the other if shrapnel is to be used as case shot. May not some defect in the manufacture of the fuze cause premature bursts?

The Russian smokeless powder gives off a good deal of brown smoke on ignition, which disperses more or less rapidly according to the state of the atmosphere. Under certain conditions of light this brown smoke is visible up to a distance of a thousand yards or more. It seemed to me that the whole of the charge was not invariably ignited before leaving the muzzle. The white "bursts" of the shells were very distinct.

Each carrier, or tray for ammunition, has a folding steel handle in the centre of each side, which lies flat when turned down for travelling. The object of these handles is that two men should bring up each carrier, but it frequently happened that one man would do this, placing the carrier on his back and holding it with his arms behind his head, but his progress was of course slow, owing to the weight (about 65 lbs.).

I saw frequently, when I was near Russian guns in action, how difficult it often is to distinguish the enemy's guns when these were *not* concealed behind a ridge, the range and the light being the causes of this difficulty. Yet Russian artillery officers are well accustomed to smokeless powder, as they have used it at manœuvres for thirteen years to my knowledge. If, therefore, troops, whether artillery or infantry, be trained in time of peace to see only the smoke of black powder, and are afterwards pitted against a real enemy, who fires smokeless powder from his guns, I consider it highly probable that they may be crushed before they can locate the hostile guns, which is a very difficult thing to do at times, as those with whom I served in Manchuria know. To give an artillery a highly-finished gun, to make it accustomed to seeing only black powder used against it at manœuvres, and then suddenly to place it in action against an artillery which has practised for years in looking for hostile guns firing smokeless powder, seems to me wicked. I write strongly because I can claim the advantage of having seen how difficult it often is for an artillery which has, for many years, only used smokeless powder at manœuvres, and which has also had much experience in action, to locate the enemy's guns.

(7 ii.) Ammunition (Infantry).

Great quantities of the infantry small-arm ammunition issued in Manchuria in 1904 had been manufactured between the years 1894 and 1898, the re-armament of the Russian infantry with its present magazine rifle having been commenced in 1893.

When men were going into action they were usually provided with not less than 150 rounds, and sometimes with 200 rounds each. The cartridges are placed in clips in packets of five, and, for purposes of transport, three clips are put in a cardboard box. Twenty cardboard boxes (300 rounds) are packed in zinc inside a wooden box. Fresh supplies were brought up when needed from the two-wheeled one-horse ammunition carts, which can go almost anywhere. The small-arm ammunition expended by the 1st Siberian Corps at the battle of Te-li-ssu on the 15th June, had not all been replaced by the 27th June. The corps in question was in close touch with the Japanese, and had a rearguard action near Kai-ping, which is about twenty miles south of Ta-shih-chiao, the railway junction for Ying-kou, on the latter date. I saw a telegram which was despatched from the 1st Siberian Corps to Army Head-Quarters at Ta-shih-chiao, begging for the immediate despatch of 300,000 rounds of small-arm ammunition, as this was "very scarce indeed." Fortunately for the Russians, the Japanese did not push on, or they might have captured Ta-shih-chiao some weeks before they actually did so.

Captain Reichmann, U.S.A.,* was talking to me one day about the expenditure of small-arm ammunition from magazine rifles, and he told me that, at the time when Ladysmith was relieved, Botha had only about 2,000 men. They had scarcely any food or water, and did not leave their trenches for four days, but each man had about 500 cartridges.

I never could extract accurate information as to the actual expenditure of small-arm ammunition in action. The Russian staff would never let me see their figures on the subject, for some reason or another, and, as the army was so large in the big battles, it is wiser not to make hypothetical calculations. I think we shall have some accurate details on the matter before very long.

This war has proved that the small calibre bullet of .3-inch or so is perfectly efficient against the Japanese, and I suppose no troops possess greater resolution than they do.

* Military attaché with Transvaal and Orange Free State forces, 1899-1900.

(7 iii.) Armament (Artillery).

Although my permit from Army Head-Quarters to see and report upon matters connected with the war was of an unusually comprehensive character, I was, nevertheless, much hampered in my endeavours to study the details of the Russian artillery armament.

There were three points of first-rate importance to be considered, namely, the suitability of modern quick-firing systems in general, the question of the best calibre for field guns—in other words, the weight of the projectile—and the desirability or otherwise of providing protective shields for field artillery.

With respect to the first point, the capability of quick-firing systems of withstanding unimpaired the rough usage incidental to a campaign, and of course I refer only to systems in which the gun recoils on the carriage, I now think it may be doubtful whether the German system of 1896 (no recoil of the gun on the carriage) be not preferable to more modern types.

The Russian carriage has done well in spite of very rough usage, over terrible roads, on the march, but it has failed on many occasions in action, one cause of failure being the hydraulic buffer. Unless we are absolutely certain that our buffer will not so fail, unless of course damaged by a shell, I really think a system like the German one of 1896 would prove to be more reliable. It will be slower, it is true, but, on the other hand, I did not see or hear of a single instance in 1904 when "rapid fire" was used, from which I argue that a gun need not be capable of being fired very quickly.

Facts are facts; the Japanese artillery in 1904 was not of the most approved type, but it was more efficient than the Russian, on the whole. This was partly due to the superior training of the Japanese, but the Russians became efficient with practice, although this efficiency was perforce of no avail when the hydraulic buffer failed. It may be, and on this point the School of Gunnery is best competent to form an opinion, that, with proper attention, the hydraulic buffer can be easily kept in proper working order for any requisite time. I was told that hydraulic buffers failed owing to an insufficient supply of liquid, which suggests leakage after a certain number of rounds have been fired, coupled with exceedingly strenuous marches. I did not learn the composition of the liquid employed, but think there is glycerine in it.

There is no doubt, however, that the chief cause of failures rested with the india-rubber buffer, which is used to bring the gun back to the firing position. There were several complaints on this score after the battles at Liao-yang. The india-rubber

appears sometimes to have become too hot without "rapid fire" being used. Some batteries have been obliged to get new carriages or guns, or both, as a result of prolonged battles. But the guns and their fittings had suffered chiefly from want of ordinary and proper care.

The Russian quick-firing field gun is placed in a cradle which recoils down the trail on discharge, a steel plate, with rivets and guides fitting between the brackets of the trail. The recoil is absorbed by a hydraulic buffer, underneath the carriage, and also by the india-rubber buffer. This buffer brings the gun back to the firing position; it is hollow, and of circular section, about three inches in diameter, and is bound with wire at intervals of about four inches. A rod with a cross-head passes down the core of the buffer when the gun is fired; otherwise the buffer would not keep straight.

The first occasion on which I saw the Russian field guns fired was at practice in May 1904, and it seemed to me then, although they had only been fired once previously, that the india-rubber buffer was scarcely sufficiently powerful to bring the gun back to the firing position. The contractors possibly provided an inferior quality of india-rubber.

The campaign of 1904 has demonstrated that a modern system of quick-firing field artillery will withstand any possible amount of exceptionally difficult marching, but it has also proved that neither the Russian hydraulic buffer nor the india-rubber one will always withstand, unimpaired, the tests to which they may be subjected in action. Possibly the extraordinarily difficult marches weakened the hydraulic buffer, but I do not see how they could have affected the india-rubber. The position of the hydraulic buffer underneath the carriage is a very safe one; on the other hand, the india-rubber buffer is exposed to bullets between the brackets of the trail.

The spade of the Russian gun is fixed rigidly to the trail at an angle of about 45 degrees, and the "jump" of the gun on discharge is considerable on average soil.

The field gun is sighted on the left side with a tangent scale and circular trunnion sight, and there are two small handwheels, one for giving elevation and the other for traversing the cradle through a small angle. There are axle-tree seats, but none for the laying or the firing numbers. On the march three men are carried on the gun limber.

To open the breech of the gun a small vertical handle is pressed lightly downwards; this movement operates a spring, and enables the breech to be pulled open horizontally by the handle, the arrangement being very simple, and apparently strong.

In case of a missfire the striker can be recocked without opening the breech, and the striker cannot touch the cap until the breech has been properly closed.

The calibre of field guns was a much disputed point in 1902, when I was Military Attaché in Berlin. Several prominent German artillerists urged the desirability of reducing the calibre of horse and field artillery quick-firing guns from about three inches to two or two and a half inches, while substituting for shrapnel shells common shells, filled with a high-explosive, which would burst into a very large number of small fragments, each capable, however, of penetrating gun shields. I confess I was rather taken with the idea at first, but practical experience in the field has led me to alter my opinion completely. After witnessing numerous battles I hold that an army ought to possess a sufficiently mobile, but powerful and long-ranging, field artillery (also a similar mountain artillery when requisite). I believe that field guns of 2.5 inches calibre or less would never do in practice; their inferiority in range and power would soon cause them to be crushed, possibly before they could get close enough to the hostile guns to fire a shot.

Turning now to the question of protective shields for field artillery, the Russians were not provided with them. But I think that shields would be of very great advantage, both from a moral and from a physical point of view, in increasing confidence and diminishing losses. I feel convinced that Russian batteries would at times have advanced during a battle to within considerably closer ranges, when they could have seen their targets better, if they had been provided with shields. The only infantry shelter trenches which gave good protection against Japanese shrapnel were those of deep and narrow section, and protection of much the same kind would be afforded to gunners by shields. The chief argument against them is the additional weight behind the team which they would entail. Now Russian artillery horses, though wiry, are not powerful, nor are they driven nearly so well as our teams are. Yet they withstood really well the hardships of all kinds to which they were frequently exposed, and had they been driven as our men drive I am sure they could have managed shields also. These can certainly be arranged for in some way, because as a general rule it is quite sufficient if field batteries move at a walk. On these very rare occasions (and I never saw one in 1904) when a more rapid pace is necessary for a short distance, I imagine that our powerful and carefully driven teams would not succumb to shields.

But, whether shields be adopted or not, I think the Russian system of ammunition supply, where the wagons are not placed between the guns, but at some distance away from them, ought to be employed. On several occasions I saw Japanese guns firing from long or medium ranges at small targets, and their accuracy was such that, on similar occasions, an ammunition wagon or wagons placed between guns could certainly be struck, and exploded not infrequently. This risk of losing ammunition seems too great to be contemplated, and although shields will

certainly give good protection against time shrapnel fire, they could not prevent a high-explosive or percussion shrapnel shell from destroying a precious wagon-load of ammunition, and might indeed aid it in doing so by causing the shell to burst.

Armament, however, is not everything, as was decisively shown in 1904; the Russian quick-firing field gun is better than the Japanese weapon, but the practice from the latter was superior to that from the former, and the Japanese artillery tactics were better than those of the Russian, the simple explanation being that the Japanese were manifestly better trained, and had had more practice. Without plenty of practice one cannot utilize properly the advantages offered by a good gun, and the expense of it would be money well saved in the end because much less ammunition would then be expended in action.

Indirect fire was employed more often than direct fire by the Russian field artillery. The instrument used for it is a goniometer (*uglomer*) or angle-measurer, and as it is described in the Proceedings of the Royal Artillery Institution, "Translations, &c.: December 1904, page 202," it is unnecessary to explain it here. I think, however, from what I have heard, that our system for indirect fire is the better one of the two.

The Russian quick-firing field artillery was provided with telephones at the rate of one for each brigade of batteries, in order to observe and correct the fire. The observing post may be a considerable distance from the guns, and out of sight of these, so that telephones are really very necessary. Howitzer batteries, curiously enough, were not supplied with them. Owing to the absence of telephonic communication a battery had sometimes to be placed in a more exposed situation, perhaps in front of a village instead of behind it, in order to enable the observation and correction of its fire to be carried out within a reasonable period of time.

The Russian authorities, prior to the battle at Liao-yang, decided to make some use of siege guns in the defence of positions. I never saw any of these guns except at a railway station, as they were not employed with any of the forces to which I was attached. The guns were 6-inch breech-loaders (not quick-firing), and about thirteen feet in length. The weight of each gun without the breech block was 1 ton 16 cwt. 2 qrs. 25 lbs., and with the breech block, 1 ton 18 cwt. 1 qr. 27 lbs., the weight of the block being, therefore, 1 cwt. 3 qrs. 2 lbs. The diameter of the limber wheels of the travelling carriage was less than that of the gun carriage wheels, which was about 5 feet. The gun carriage had, of course, "travelling" holes and "firing" holes.

There was no modern mountain artillery in 1904 with that portion of the Russian Army to which I was attached, only a few old pattern guns of no use. By the 1st December, however, seven mountain batteries of quick-firing guns had reached the field army, where, for the time being at any rate, they were

no longer required. The effect of the Japanese mountain batteries was very great owing to their range and power. It was quite remarkable to see how successful they were against Russian field guns or infantry.

There is no doubt about the necessity of having powerful field guns, but one should be careful not to go too far in this direction. It is quite sufficient if a field gun can move at a good walk, but there is no object in having guns of such extreme range that you cannot utilize this quality, nor should the shells be so heavy as to require an inordinate length of battery transport. There must also be some efficient means of checking recoil, otherwise in a battle lasting for days the gunners will get exhausted. But that a gun should be capable of firing a large number of rounds in a minute is, I believe, quite unnecessary. Guns in large numbers do not get so close to each other or to infantry as to necessitate "rapid fire," but they should have shields.

(7 iv.) Armament (Infantry).

There is one point connected with the armament of infantry to which attention should be drawn as a result of the campaign of 1904. This campaign has proved that hand-to-hand fighting may often occur. There were instances of it during the war, notably at Liao-yang, when some of the trenches of the 1st Siberian Army Corps, to which I was attached, were taken and re-taken. The length of the Japanese rifle and bayonet is, I understand, about three inches less than in the case of the Russians, and the Japanese have certainly held their own in bayonet charges.

But if troops, who are about to be attacked with the bayonet, be good shots, and not hopelessly outnumbered, I consider that no infantry could get near enough to them to use the bayonet, or to put it in another way, fire should be the predominant factor in a battle.

Concerning the armament of infantry officers, I did not procure any evidence in favour of giving them rifles, which are also cumbersome. As frontal attacks have to be reckoned with, it seems to me that officers should be easily distinguishable by those in their immediate neighbourhood for purposes of command. A word may also be said about revolvers: a bullet from a .44 revolver will probably keep a man quiet for a quarter of an hour, whereas a smaller bullet will probably not do so, according to expert evidence.

In order to keep dust off the breech of the rifle the Russians tie a rag round it, and stuff another down the barrel. I do not remember seeing a sight protector in use.

The calibre of the Japanese rifle is a trifle smaller* than that of the Russian one, which is .3-inch, but it has proved thoroughly efficient against European troops, as a large proportion of the wounds inflicted by it were slight, but they usually, although not invariably, put men out of action.

Russian rifles are not cleaned with oil, as this is said to clog the mechanism in very cold weather. Vaseline or a lard mixture is used instead. The German firm of small-arm makers at Soemmerda, in Germany, is a branch of the Ehrhardt factory at Daesseldorf, and makes a kind of vaseline paste which I have found very efficient in all weathers.

The Russian bayonets are browned, and I never observed them ~~show~~ ^{show} in any light, however bright.

~~It happened~~ occasionally in 1904 that men clubbed their rifles, and if this is considered likely to occur with our troops, the stock should be really strong and in one piece.

* The calibre is .256 inch.

(7 v.) Artillery.

The technical points connected with the Russian quick-firing artillery, which relate to the construction of the gun and its ammunition, have been dealt with separately under the headings "Ammunition" and "Armament."

Formerly, it was the custom to regard the rôle of artillery in a battle as being chiefly preparatory, or subsidiary to infantry. I confess that, although I was by training an artillery officer, I used to think that the physical effect of field artillery would not be very great throughout a campaign. But I had not then had the numerous opportunities which have since been vouchsafed to me of being with troops subjected to a violent and well-directed artillery fire. By the light of my new experiences I can see no reason why artillery should not often be the decisive factor, and it certainly was at Te-li-ssu on the 15th June, when the Russians would have been defeated even if the Japanese had not also turned their right flank. Although, throughout the campaign, a large proportion of Japanese shrapnel burst too high, too short, or too far, it was impossible to avoid noticing their general accuracy, and I imagine that such excellent results could only have been attained by constant practice in time of peace.

Theoretically the Russian quick-firing artillery at Te-li-ssu on the 14th and 15th June ought to have crushed the Japanese batteries which were not so armed, and were inferior to the Russian guns. But, instead of this, the Japanese artillery practically won the battle and gained a decisive victory.

The Russian batteries which were in Manchuria in May 1904 had only been in possession of their quick-firing guns for about four months, and had had scarcely any opportunities of carrying out gun practice with them. On the 25th May, at Hai-cheng, I saw No. 4 Battery of the 1st Eastern Siberian Artillery Brigade at gun practice. Prior to its arrival in the theatre of war it had been No. 3 Battery of the 25th Field Artillery Brigade in European Russia. Only once prior to the 25th May had the battery been able to fire, whilst the 1st Siberian Army Corps, to which it belonged, was destined to take part, three weeks afterwards, in the disastrous attempt to relieve Port Arthur. On the 25th May the practice was carried out in country broken up by low hills; the ranges were unknown and were estimated by section commanders, the "bracket" system being employed and each section doing its own ranging by means of time shrapnel. I dislike this system, which renders it very difficult to estimate correctly where a shell bursts. The range estimates varied greatly, and while the drill was good the shooting was decidedly bad. Want of

practice was the reason, and the result was not to be wondered at. Plenty of service practice is necessary, and the cost of it will certainly be saved over and over again in war by a greatly diminished waste of ammunition caused by shells bursting without inflicting any damage whatever. On taking up a position the battery in question dug holes for the spades; there was scarcely any recoil of the gun carriage, but the "jump" was great and each gun was relaid after every round.

The proportion of Russian field guns to infantry had been originally fixed at a very low figure, namely, 2·7 guns per battalion. In order to bring the field artillery in Manchuria up to this strength, it was necessary to draw upon some of the artillery brigades of the regular army in European Russia, which accordingly despatched twenty-eight field batteries to the Far East in order to provide guns for the East Siberian Rifles which still required them, and other units. For instance, No. 4 Battery of the 34th Field Artillery Brigade from the VIIth Army Corps at Simferopol was made up to war strength by drawing upon other batteries of that brigade, and it was at Chelyabinsk, the western terminus of the Siberian railway on its way to the Far East on the 27th March 1904, while No. 3 Battery of the 19th Field Artillery Brigade from the XIIth Army Corps in the Kiev military district was at Krasnoyarsk on the 31st March.

As the campaign progressed and several more army corps had to be sent to Manchuria than had been originally contemplated, the proportion of field guns rose from 2·7 per battalion to 3·3 (1,056 guns to 316 battalions). As a general rule twelve wagons sufficed for a field battery, but not always, even although "rapid fire" was not used. Two wagons for each field gun would be safer, and three better still, but then the length of battery transport becomes a serious problem, which must be solved by compromise. I cannot agree with the theory that, because a gun can fire, say, nine rounds a minute instead of three, you may safely have two-gun instead of six-such gun batteries. Suppose a gun be disabled under circumstances, the fire is reduced at once by fifty per cent. in a two-gun battery.

As late as the 12th August 1904, there were, I believe, with the Russian Field Army in Manchuria, only two mountain batteries, and these were of an antiquated and practically useless pattern; they were still in use in October 1904. In July 1904 great hopes were built upon the expected arrival of some quick-firing mountain batteries of the most modern type, but they were only seven in number (fifty-six guns), and were on their way in August with the 5th Siberian Army Corps, which had been formed from reserve troops in European Russia. The fact was that only very few quick-firing mountain guns had then been manufactured. I have not yet had an opportunity of seeing any of these new guns, none having been attached to the forces with which I was present. A Russian general told me

on the 11th June just before the battle of Te-li-ssu, that the Japanese mountain guns were ineffective at ranges exceeding 3,300 yards, and he maintained that the Russian quick-firing field guns would, therefore, "sweep them out of action" at 5,500 yards with perfect safety, which, in theory, they ought to have done. But the re-armament having been so long delayed, the gunners could not at that date utilize the power of their guns. He admitted that mountain guns can be taken over ground impassable for field artillery. Until the battle on the 14th and 15th June the general, like all of us who were with him, had no conception of what field and mountain artillery could effect in the hands of troops like the Japanese.

But the Russian field artillery was not armed throughout with quick-firers. The war broke out before the re-armament had been completed even in European Russia, so that when the 1st Army Corps from St. Petersburg was mobilized, it had to be provided with field artillery from another military district (Warsaw). When the 4th Siberian Army Corps was formed from Siberian reserve troops, there was either no time, or else it was not considered worth while, to procure quick-firing field guns for it, and the corps in question was, therefore, sent to the front with old pattern field guns and fuzes. It is not surprising that the 4th Siberian Army Corps continually suffered very heavily.

Of course everybody is aware that to sacrifice guns under certain circumstances is the duty of all good artillery, but to preach the doctrine of being almost reckless in this respect was strange, especially when the very great difficulty of replacing guns lost in Manchuria be considered. Yet this doctrine was loudly preached, but not until after the battle of the Ya-lu on the 1st May, the first of an unbroken series of Russian defeats. When General Kuropatkin came to see the 1st Siberian Army Corps at Hai-cheng on the 23th May, prior to its attempt, to which I know he was opposed, to relieve Port Arthur, I heard him say to some Russian officers that *because* modern quick-firing field guns have such long range and are so accurate it is a great mistake to be fearful of losing them. His argument was not very logical, and I believe he wanted to infuse faith into the artillery which had had scarcely any practice with their new guns, and to encourage the infantry by having artillery in support, not at long but at relatively short ranges. A very senior staff officer had also proclaimed a similar doctrine after the Ya-lu battle, but prior to that at Te-li-ssu, although when guns were lost at the latter, he told me it was an unfortunate occurrence to which "we are not accustomed."

General Kuropatkin did not make all the use he might have done of his artillery, for, at Liao-yang, he had available six hundred guns, but only a little over four hundred were in action, and this was the case when it was vitally important to overpower the Japanese artillery. More Russian guns could have been used with great effect at Liao-yang.

The general opinion of the Russians was opposed at first to the use of heavy mobile guns for field service; the view taken was that the Boers used them because they had little else in the shape of artillery, but that their effect was, as a rule, trifling. The Japanese were said to have copied us as we copied the Boers, and the Russians stated that, for moral reasons only, they felt obliged at last to follow suit. When a Russian general told me on the 18th August that twenty 6-inch siege guns had been mounted, by the aid of a narrow-gauge light railway, in some of the works round Liao-yang, he expressed the view that this was "childishness." I have come to the conclusion that there is a great future for powerful, mobile artillery employing long range indirect shrapnel fire. The enemy may not be able for a long time, if at all, to locate the positions whence it comes, but by long range I do not mean extreme range. To make really good use of such artillery, much shooting will be necessary in time of peace. This, however, would be true economy in the end, because there would be then much less useless expenditure of costly ammunition in battles, whence the corollary that ammunition will be a much less expensive item, and its transport will be less difficult, as, a smaller quantity being used, there will not be so much to carry. Even the Japanese, splendidly as their artillery served them in 1904, must have regretted that thousands of their shells did not burst at a more destructive height, when the results would have been greater for a smaller expenditure of ammunition.

Whatever types of guns be used in the field, artillery firing at long ranges, especially if crops be standing, should guard most carefully against causing loss to its own troops in front. Incidents of this kind most certainly shake troops, even those of remarkable steadiness, which the Russians undoubtedly are. There were several instances of such disasters in 1904, which more than once compelled Russian troops to evacuate important positions gained with heavy loss, and admittedly demoralized them, or rather, their remnants for future operations.

This is one good reason for limiting the range of guns employed with an army in the field; a very long range will certainly cause guns to fire at their own troops at times, or else they will not fire at all for fear of hurting them. Guns with an army in the field cannot safely be used like guns in a besieged fortress where the positions of the garrison seldom change.

At a range of 6,000 yards it is often uncommonly difficult to distinguish the target, so that to have a very heavy gun merely to be able to fire at extreme ranges seems to me a mistake. After my experiences in 1904 I would much sooner have a 15-pr. gun with 200 rounds per gun with the battery than an 18-pr. which had only 150 rounds per gun, and 1904 has shown that about 200 rounds per gun is the minimum supply which a field battery should have with it.

It is not to be wondered at that military historians, writing about the same operations, often differ widely concerning matters of fact. The following is a case in point, showing how even eye-witnesses present in different parts of the same battle-field, disagree; there was great diversity of opinion as to the number of guns in action in the Japanese centre at Te-li-ssu on the 15th June. One view was that there were seven batteries (forty-two guns) there, while others declared the number was eighteen.*

Turning now to the tactics of artillery in 1904 the general remark may be made that, on the Russian side, both in attack and defence, batteries were dispersed rather than concentrated; there was an absence of unity of command, batteries constantly selecting the targets which attracted them most for the time being, and only a portion of the relatively weak artillery force was used, when the whole of it could have been advantageously employed. I know of an instance in one of the corps of the Eastern Army where an entire brigade of thirty-two quick-firing field guns was kept well away from the field at the battle of the Sha Ho when its presence was greatly needed. This was characteristic of Russian tactics; troops were often wasted either by not being used when they could have been employed, or else by being sent forward in dribblets.

Prior to the battles of the Sha Ho the 1st and 3rd Siberian Army Corps had each received a howitzer battery. These two corps were to attack some very difficult passes on the 11th October, while the remaining army corps of the Eastern Army namely, the 2nd East Siberian, was to be in reserve. On the 10th October the howitzer battery of the 3rd Siberian Army Corps was detached to join the 2nd as a temporary measure. I could see no reason for this, and much against it, although I do not believe that the attack of the 3rd Corps would have succeeded had its howitzers not been taken away.

The experience of actual war made the Russian batteries really efficient in time, although this was a costly method of acquiring efficiency, but the Japanese artillery in the various battles which I witnessed was almost always better handled than the Russian. Sometimes, however, the Japanese batteries presented very good targets; I saw some at Te-li-ssu on the 15th June which stood out clear on the sky-line for a considerable time and well within the range of the Russian quick-firing field guns, whose shooting, however, seemed poor, which was not to be wondered at considering that they had had scarcely any previous practice.

It was on the 14th June at Te-li-ssu that I first saw the Japanese artillery in action; the Russians estimated its strength at thirty-six guns, whereas General Stakelberg had only brought

* The 13th and 15th Japanese Artillery Regiments with a total of twelve batteries were in the centre; the 3rd Artillery Regiment (six batteries) was on their right and might therefore be included, which would make the total eighteen correct.

up three batteries (twenty-four guns), although there was room for many more, which were indeed actually available. One of these three batteries was the one I had seen at gun practice on the 25th May, and all its officers were wounded, but the battery remained in action. Both the Russian and Japanese batteries often fired a series of eight or six rounds each very rapidly, after which a battery would pause for some time. The Japanese guns were well laid for direction, and the ranging was, generally speaking, good, but many of their shrapnel burst much too high and several were blind.

As the campaign of 1904 progressed and the Russian batteries became more accustomed to their new guns and got more practice, recourse was usually had to indirect fire. I am strongly of opinion that this method ought to be largely practised by field artillery. In support of this statement I will relate what happened at the battle of Liao-yang on the 30th and 31st August. The batteries of the 1st Siberian Army Corps were placed in pairs, as a rule, in gun-pits, to suit the defensive requirements, although at first, on the 30th August, one battery from each of the two artillery brigades of four batteries each was held in reserve until the Japanese attack developed itself. Now most of the batteries suffered a good deal of loss, but two batteries were placed on the open plain some distance in rear of a ridge and employed indirect fire. It was very interesting to observe the efforts made by Japanese batteries to locate these two; the efforts were quite unsuccessful until midday on the 31st August, when I went with General Stakelberg to another part of the position. Judging by the situation of the two batteries it seemed as if the Japanese guns would soon get their range, but they failed to do so.

The Japanese expended about a thousand shrapnel over ground where they thought the reserves of the 1st Siberian Army Corps stood, but the Russians had no reserves left. This heavy Japanese fire was preparatory to the last and also unsuccessful attack on the Russian right on the 31st August, and is a good argument against the French *rafale* system.

Of course there is always the element of luck to be taken into account. On the 31st August at Liao-yang, when the situation was extremely critical, two Russian field guns were sent forward on to the open plain to assist in repelling a very resolute Japanese attack on the trenches. The Japanese were beaten off and the two guns suffered no loss. On the other hand, a battery in gun pits in the same section of the defence had about one hundred casualties in a very brief period during the same attack, whereas another battery alongside it, also in gun pits, had none. The former of these two batteries then changed position slightly to the rear and had no more losses, the Japanese shells continuing to burst where it had previously stood. It is very difficult nowadays to silence hostile artillery, as this is often very hard to locate if it takes advantage of its

long range and cover. Notwithstanding the tremendously heavy Japanese fire at Liao-yang not one of the batteries of the 1st Siberian Army Corps was silenced there.

During the battle of the 2nd September at Liao-yang I observed a Japanese battery whose shells fell persistently from 150 to 200 yards short of the Russian guns; it seemed to me that the Japanese battery was firing at about its extreme limit of range. In support of this statement it may be mentioned that there were numerous instances in 1904 of shrapnel bullets remaining embedded in men, possibly because, having been fired at long ranges, their velocity on impact was not sufficient to carry them through a man's body. Such wounds were of course more difficult to treat than others, especially as the shrapnel bullets were relatively soft, and splintered.

Although at Liao-yang on the 31st August the fire of the Japanese guns, while preparing for the last attack before dark, was so heavy as really to resemble musketry fire in its rapidity, still it was not "rapid fire," nor did I observe or hear of in any battle "rapid fire" being employed by any of the Russian batteries. I think they might have had recourse to it with advantage sometimes, say at the rate of five or six rounds per minute per gun, so as, for instance, possibly to have crushed some Japanese batteries at Liao-yang which were compelled by the Russian guns to change position.

The most rapid rate of fire of which I heard in 1904 was from a battery of eight field guns at Liao-yang, which, its commander stated, expended 4,000 rounds in 15 hours. This works out at the rate of less than 34 rounds per gun in 60 minutes, from which it may be fairly argued that costly quick-firing guns capable of firing a dozen or more rounds per minute are not necessary.

The sharp look-out kept by Japanese batteries in action was well exemplified on the 14th June at Te-li-ssu. One of them was engaged with the Russian artillery when General Stakelberg and his staff rode on to an eminence between some batteries and infantry in action; the Japanese, possibly taking them for troops, at once fired a couple of good ranging shots and then fired a series of well-aimed shrapnel. If the staff had been a battery coming into action there must have been several casualties at least, as the target would have been both broad and deep, while the party was less than a dozen strong and the bullets fell all around it. General Stakelberg formed a very conspicuous mark, because he invariably wore a white tunic in action until the weather became cold. I frequently noticed the habit of the Japanese gunners of sending shells at very small isolated parties, consisting, perhaps, of not more than two or three persons. Captain Reichmann, the United States Military Attaché, told me that when he was with De Wet in the Boer War our artillery often adopted this plan, with the result that some Boers were almost always hit, which made them very

cautious. Captain Reichmann is a believer in the system, but indiscriminate artillery firing may, it must be remembered, expend a quantity of precious ammunition out of all proportion to the results gained, and possibly prevent a defeat from being turned into a rout on some subsequent occasion, owing to want of shells.

With regard to the question of accuracy of fire throughout 1904, the Japanese gunnery was decidedly superior to the Russian; the latter improved of course very considerably as time went on, but although the Russians possessed the better gun, they did not attain the same level of excellence as the Japanese, who were very good, but not perfect. I did, however, see during the battle on the Sha Ho in October 1904, some excellent work done by Russian batteries; the Japanese, who were holding the Russian left, which was endeavouring to turn the enemy's right flank, brought three batteries into action to defend some passes in the mountains; three Russian field batteries opened on them and quickly silenced them for a time, and on every subsequent occasion when these Japanese guns came into action, the Russian batteries very soon made them cease firing.

It seems to me clear, as the result of what I observed in the battles at which I was present from June to October 1904, that field guns should have shields, and be as powerful as is consistent with a supply of about 200 rounds per gun; they should be able to move at a good walk, and possess efficient means of checking recoil, so as to lighten the labours of the gunner. I never once saw a field battery in 1904 move at a more rapid pace, and, as regards the supply of ammunition with a battery, shells should not be so heavy as to require an inordinate length of battery transport. Field artillery should be trained to use effectively not only direct but also indirect fire, and to do this with safety over one's own troops at long range is an art which can only be acquired by plenty of practice. It may be that about 6,000 yards is the practical limit of range for field artillery in a big battle where each side has large numbers of guns. At any rate it is uncommonly difficult to locate well-placed hostile artillery at such a distance as this.

There was an occasion at the battle of the Sha Ho on the 13th October which, had it been taken advantage of, would, I believe, have enabled the Japanese to cut off a large portion of the Eastern Army under General Stakelberg. When his 2nd Corps on the right of his army was attacking a high ridge held by the Japanese, one battery of mountain artillery brought up there would have played havoc with the Russian infantry and ammunition wagons packed in the valley close below. The opportunity was such a striking one and, apparently, so feasible, that it seemed surprising no advantage was taken of it. This is an instance of the chances sometimes offered in a great battle to a very small force of artillery.

In 1904 the decisive artillery ranges were long rather than short. It was curious to see what a large proportion of the Japanese shrapnel burst at exactly the right range, but too high; if this error had been corrected, the Russian losses, heavy as they were, must have been greatly increased. In this event General Stakelberg's men could not have held their ground at Liao-yang on the 30th and 31st August, in which case the Russians, being south of an unfordable river, would have been routed, and the campaign ended for, at least, the best part of a year.

My opinion is that the campaign of 1904 has shown the desirability of having, as we have, corps artillery. A general can then increase his artillery fire as a battle develops without being obliged to diminish it elsewhere.

The concentration of fire, and the dispersion of guns depend upon the circumstances of each case, and no definite rules can be laid down. It must, however, be remembered always that, with a large force, there are natural limits to the dispersion of guns, otherwise all the guns of an army cannot be employed.

The question of the best method of fire is a very important one, and close observation of artillery in action in Manchuria seems the surest way of arriving at a sound conclusion. It may, no doubt, happen in a battle that one will have to search ground in depth and in breadth sometimes. But, as I saw in 1904, this may lead to a very great and useless expenditure of valuable ammunition, and the Japanese proved this at Liao-yang when searching for the reserves of the 1st Siberian Army Corps which did not exist. If they had existed they would undoubtedly have suffered a good deal of loss until moved away, but not sufficient to render them valueless. As it was, however, the Japanese fired at least a thousand rounds of shrapnel, which killed and wounded about a dozen men only. I was close by and saw the whole thing.

Good ranging is what is required before proceeding to use time shrapnel, and not a *rafale*.

As regards ranging, I think it better to do with one or two guns of a battery instead of using a larger number. In the latter event, observation of ranging shots would, I imagine, be rendered more difficult and ammunition be wasted in consequence. No doubt, in trifling skirmishes where a small force is employed, all the guns of a battery might range with advantage, but such events are of very little importance as compared with those where the force on either side may be anything from 30,000 men upwards. When both sides are well armed and resolute, battles do not progress so rapidly as to render hasty ranging desirable, and it is with decisive battles that we must chiefly concern ourselves, when discussing the values of various kinds of artillery fire.

(7 vi.) Balloons.

No balloon was attached to any of the corps with which I served in 1904, but a balloon detachment reached Liao-yang from Russia at the beginning of July. I was told that more detachments ought, theoretically, to have been formed and despatched to Manchuria.

From what I heard I infer that balloons were very useful to the Russians at Liao-yang on the 30th and 31st August, by enabling them to discover the turning movements of the Japanese against the right rear of the Russian army. A balloon was also sent up on the 13th October, the third day of the battle of the Sha Ho, but not until 4 p.m. During the battle of Liao-yang the crops, many of which were eight feet high, or more, while all of them were very thick, were still standing. Whereas in October on the Sha Ho they had nearly all been cut, which considerably extended the vision of people on the ground.

(7 vii.) Bivouacs, Camps, and Cantonments.

Although the number of villages in Southern Manchuria is great, except in the strip of "neutral territory" north of Port Arthur, the troops were constantly compelled to bivouac, but it must be remembered that each Russian soldier carries his portion of a shelter tent with him. These portions are rigged up by two, three, four or more men, and provide shelter rapidly. The tent cloth, being pretty well waterproof, can be and often is worn on a man's head and body during wet weather, either on the march or when halted. Even with these tents, however, there is a good deal of exposure, and continuous bivouacking always entailed a considerable amount of sickness in bad weather, generally fever or dysenteric symptoms. The dimensions of each man's portion of a shelter tent are 8 feet 2 inches by 8 feet 2 inches.

Nearly the whole of the 1st Siberian Army Corps was in bivouac from the 3rd June until November 1904, when shelters were dug out of the earth and heated, as the weather was getting very cold.

I have classed these arrangements as bivouacs because the Russians designate them thus, but they have a good deal of resemblance to camps. In fine weather or when the men were very tired, the shelter tents were often not pitched. Altogether there was a good deal of bivouacking pure and simple for all ranks of General Kuropatkin's army in 1904, but the troops did not suffer nearly so much from it as those of other armies would have done.

Generally speaking, the camps of Russian troops in the field are more in the nature of bivouacs than of encampments, as we understand this term. In each instance the men have their shelter tents, and absence of method and order in the arrangements is patent in both cases; for instance, a brigade of Cossack cavalry arrived at Hai-cheng in May, and the men encamped about half a mile below the spot at which the horses were taken to water at the river, and where the men bathed at the same time. There was no reason whatever why the horses should not have been watered just below where the troops were placed, and where they drew their drinking water. When the 1st Siberian Army Corps was assembling at Wa-fang-kou for the relief of Port Arthur in June the camp was pitched on a plain surrounded by hills. This site was very hot, and there were some fatal cases of sunstroke, whereas the tents could have been pitched quite easily on some gentle slopes close at hand, where the men would have had the advantage of a refreshing breeze, and the ground would have been also drained. It is true the Russian

soldier is accustomed to filthy surroundings, and therefore does not suffer in health so much as other troops would under similar circumstances.

I accompanied General Stakelberg early on the 11th August at An-shan-tien when he went to see some of his troops which were in camp in rear of the position they were to defend. After a time Stakelberg gave an unexpected order to strike the camp, and occupy the position. The infantry, in heavy marching order on a very hot day, had a steep hill, 400 feet high, to climb, and this was situated about a mile and a half away from camp. The whole movement was completed, and the baggage packed and sent away, in eighty minutes.

Whenever Chinese villages were available, and the circumstances permitted troops to be housed, the buildings were occupied by the forces. The inhabitants were, as a rule, allowed to congregate in one or two "fanzas,"* as their dwellings are termed.

The troops did a great deal of damage; woodwork, troughs, and farm implements were used for fuel, and the crops were taken for man and beast. Theoretically the Chinese were supposed to receive fair compensation, but except on very rare occasions indeed, the money never, I believe, reached them, except during the first few months of the war, and numbers of small farmers were ruined. After the war had lasted for a short time the inhabitants of a village would frequently abandon it, on the approach of troops, carrying away with them what they could, especially doors and windows.

* Chinese *fang-tsu*.

(7 viii.) Bridges.

The permanent railway bridges are all guarded by soldiers from and including West Siberia eastwards.

The big railway bridge just south of Wa-fang-kou station had been destroyed prior to the 7th June 1904. When preparations were being made to attempt the relief of Port Arthur in that month a temporary bridge was made for the railway. This subsidiary bridge was about twelve feet below the level of the permanent one. The river had very little water at that season, and stones were laid in heaps in its bed, their interstices being filled with sand and mud. There was a space of some feet between each heap. Sleepers were laid across these heaps, and on these sleepers were laid others, longitudinally. The rails were then placed on the last-named and spiked to them. It was a very simple method, but practicable only if there be little water and a very sluggish current. This subsidiary bridge was not disturbed by a heavy stationary locomotive standing on it. An embankment was made to each bank of the river, commencing at points on the main line a few hundreds of yards from each bank, so as to leave a sufficiently gentle gradient for trains descending to or ascending from the stream.

The rains were very heavy in 1903, the year before the war, and several of the permanent bridges south of Wan-chia-ling (16 miles north of Wa-fang-kou) were destroyed, owing to the caissons and stone piers shifting.

Trestle bridges of timber were employed by the Russians as a rule for bridging rivers temporarily, but sometimes pontoon bridges were thrown. The trestles were connected by wires running diagonally, and such bridges withstood continuous heavy traffic very well indeed, unless the weather was wet, when the sand sweeping down stream was apt to sap the foundations of the trestles.

The 1st Siberian Army Corps had thrown some trestle bridges at An-shan-tien in the beginning of August, but, after a day's heavy rain, they were removed and replaced by pier bridges. The piers were about three feet apart in the clear, and consisted of transverse layers of beams, which answered all requirements for artillery purposes. The Russians are very fine bridgers.

The trestle bridge across the Hun Ho at Mukden, by which the 1st Siberian Corps retreated from Liao-yang, was 450 yards long and 10 feet wide. There was telephonic communication at each end so as to regulate the traffic and prevent blocks, and no man was allowed to cross mounted.

(7 ix.) Cavalry.

The cavalry of the Russian army in Manchuria during the campaign of 1904 consisted entirely of Cossacks, with the exception of three regiments of dragoons and two from the Caucasus.

The Cossack cavalry which, it may be noted, had no shelter tents, was drawn from various regions of the Empire, namely, West Siberia, Trans-Baikalia, the Amur, the Ussuri, Ural, Orenburg and Don districts. A couple of Caucasian regiments of volunteers were also formed, on the same principle as our Imperial Yeomanry, but they by no means came up to the high expectations formed of them. Indeed, they are openly stated to have disliked risking their persons, and finally they mutinied, one of the ringleaders being shot.

Taken as a whole the Cossack cavalry seems to be of little use for war purposes, and a friend of mine, a Russian officer, told me that the only Cossacks who were any good were those from the Ural.

Only those Cossack regiments which came from the west of Lake Baikal had the lance. Their wretched looking ponies are certainly enduring, but even if the Cossacks were well mounted I doubt whether they would be worth keeping up, for food and forage, often difficult to obtain, are necessary even for inefficient cavalry. Practically the Cossack force is an untrained yeomanry.

Even if the Russian cavalry in Manchuria had been of the highest class, however, it would have been much hampered, for the regions in which it had to operate were either hilly or else very densely covered with high crops until harvest time.

From all I could gather, the cavalry did not as a rule do its reconnaissance and scouting work even fairly well, with the result that the Russians usually had to rely upon the uncorroborated reports of their Chinese spies. I never could understand why they continued to pour Cossack cavalry into the theatre of war when they knew how little use it was, while eating up supplies difficult to obtain when winter was approaching.

When the Commander-in-Chief inspected General Rennenkampff's Cavalry Division of four Trans-Baikal Cossack regiments of the second Ban (*i.e.*, reservists) on the 28th April, the squadrons varied from 80 to 130 men, instead of 150. The division had only just been formed, and had not previously been in the field, and the paucity of numbers was probably due to the scanty population of Trans-Baikalia not being sufficient to complete the establishment of the regiments.

By the end of May General Stakelberg had, for his intended relief of Port Arthur, three regiments of Siberian Cossacks, namely, the 4th, 5th and 8th, the regiment of Primorsk Dragoons (six squadrons), and six squadrons, formed into a regiment of Frontier Guards, which had been stationed in the region north of the Port Arthur district before the fortress of that name was isolated. The Frontier Guards are very good men, who have completed their colour service. General Stakelberg ought to have had a complete Cossack division of four regiments, according to the Order of Battle, but the 7th Siberian Cossack Regiment had been sent elsewhere to General Mishchenko. This did not affect the efficiency of the cavalry as a division, as all Stakelberg's Cossacks were formed only on mobilization, because the men belonged to the second category, as is shown by their numbering.

Lieut.-General Simonov was in command of the whole of Stakelberg's 30 squadrons, while Major-General Samsonov, also a cavalry officer, commanded the advanced guard, which was a mixed force composed of all arms.

When General Stakelberg arrived at Wa-fang-kou during his march to the south he was met by Major-General Samsonov.

On the 7th June Samsonov's force advanced to Wa-fang-tien, the first railway station south of Wa-fang-kou, and twenty miles distant from the latter. It retreated subsequently as the Japanese advanced, and the cavalry was practically not in action during the battle of the 15th June. The country did not afford opportunities for the shock action of cavalry, but I could see no reason why that arm should not have rendered service of the highest value, had it been really properly trained to fight on foot. A dozen squadrons so employed could, at any rate, have impeded greatly the turning movement of the Japanese, and the Russians would have suffered much less than they did during their retreat. Mounted troops, fighting on foot, widely dispersed, and firing rapidly, *may* cause the enemy to exaggerate their numbers, thus gaining time.

I was told on good authority on the 21st July that there were then 135 squadrons, nearly all of them Cossack, with the Russian army in Manchuria, say 15,000 men. I was not able to verify this information, but I daresay it was correct.

An officer of the United States Army, who was attaché with the Boer army in South Africa, was discussing modern fighting one day with some other officers, who were upholding the employment of cavalry solely for scouting and shock tactics. None of them had ever seen service, and the American, who is by no means an exaggerative officer, said that the British troops in Africa were "fine," but, not knowing what modern rifles could effect, they were often non-plussed by parties of mounted Boers from six to twenty strong. He went on to declare that, after his experiences with De Wet and in Manchuria, he was convinced that fire is everything nowadays—a further plea, if

one were needed, for training cavalry to be really efficient with the rifle. If the Japanese cavalry had been good horsemen and shots, it might possibly, indeed probably would, have made of Liao-yang a decisive victory, opposed as it was by what must be termed very inefficient cavalry.

The Cossacks were, generally speaking, badly mounted. Although the transport of a Cossack regiment is horsed by the Government the men find their own animals. If a horse dies or becomes unserviceable the soldier receives a sum of money wherewith to purchase another, but this was frequently impracticable. The result was that a large part of a regiment was often dismounted for many weeks at a time. The 5th Regiment of Siberian Cossacks was quite used up by the 13th August, and then became a great encumbrance.

After the Russian army had retreated from Liao-yang to Mukden in September the Commander-in-Chief decided to form a big cavalry screen under General Rennenkampf, and to push it forward as far as possible. He laid so much stress on this that in the case of the 1st, 2nd, and 3rd Siberian Army Corps, at any rate, the troop of Cossacks which forms the escort of a general commanding an army corps was taken away to join Rennenkampf, and replaced by mounted infantry scouts (*okhotniki*), who were good men wasted in their new position. Battalions of infantry were also attached to Rennenkampf's force from time to time.

I had practically no opportunity of observing for myself what the cavalry did in action during the campaign of 1904. I did not see the two regiments of dragoons which came from European Russia, but the regiment of Primorsk Dragoons was with that portion of the army to which I was attached from May to October. If it had been trained to shoot it could have rendered very useful service indeed during the retreat from Wu-fang-kou on the 15th June. It was well mounted, but attempted nothing during the retreat. Yet one was constantly hearing the praises of the regiment being sung. During the series of great battles on the Sha Ho in October it was announced one day that a squadron of the Primorsk Dragoons had exterminated a Japanese company of infantry. Possibly it may have performed this feat, but to hear the amount of laudations which it caused one might have thought a great victory had been gained, whereas Kuropatkin was at the time, if not vanquished, certainly not the victor. I used to hear continually inordinate praise lavished on this or that petty cavalry skirmish, while, as regards a big defeat, it was said everything would be all right next time, and there was, therefore, no need to bother about bygones. We cannot be surprised at what happened in 1904 when we know how trifles were exaggerated and victory was expected to come without effort.

(7 x.) Censorship.

Censorship regulations were in force concerning telegrams when I arrived at "Manchuria," the frontier station, on the 5th April 1904, and the regulations became, as was to be anticipated, gradually more stringent until Liao-yang was reached.

Shortly after joining General Kuropatkin's Head-Quarters at the latter place, the foreign officers were informed that all correspondence, official or private, and photographs for foreign countries, must be addressed to their respective embassies or legations at St. Petersburg for transmission, and handed in to the Staff Office at Liao-yang. Postcards were exempt from this rule, which, however, ensured the speediest delivery, as the postal authorities referred cards which did not bear a censor's stamp back to the authorities. Telegrams were only allowed to be sent in the Russian language, but this restriction was removed a few months afterwards. The military attachés were told that private correspondence would not be subjected to censorship, a polite fiction, as one or two quickly discovered when remonstrated with on the contents of some of their letters to private individuals. I know of two instances in which foreign officers, who had been shown the fortifications round Liao-yang in May, wrote about them in private letters. The Russian authorities remonstrated and the offending passages were erased, but the writers declared they could see no good reasons for such strictness, as Liao-yang, at any rate, was perfectly safe from attack. The indiscretion of the two strategists in question was absolutely harmless in intention, and shows that a strict censorship is necessary sometimes.

There was a very distinct line drawn between the facilities afforded to the military attachés and the press correspondents respectively. The latter were, at first, allowed to see and learn practically nothing, whereas the former were given very considerable latitude, in some ways, on the express understanding that none of their official reports should be disclosed. Before there was much news of importance, however, one foreign officer, at least, exceeded the bounds laid down, and facilities were then diminished, and a circular issued of which I append a translation, or rather, the sense. This document was drawn up in the French language, but its meaning would be unintelligible in places, as a French officer told me, had one not had verbal explanatory remarks concerning it:—

"I beg to forward some observations, approved by the General Commanding the Army and the General Staff, as to the position of foreign officers in the theatre of war. You are very welcome here. Study our army

in all its details, and criticize the events of the war, but only from our point of view.

"The General Commanding the Army has fixed a boundary, which may not be passed, between the information given to the press and that reported by the military agents.

"The press reports to the world the events of the war, but correspondents are not acquainted with the details of the distribution and strength of the troops, the nature and strength of the fortified positions, and other details. All these items are communicated to the foreign military missions, which are accredited by their respective governments, and which enjoy the complete confidence of the whole Russian army. If such information be even sent by post it may reach the ears of the enemy, and so cause damage to the army.

"Every army, just as every government, has certain secrets which, even in time of peace, are known only to a few.

"I trust, therefore, gentlemen, that you will, for the time being, abstain from reporting anything that we desire to keep secret, even in your official despatches. A military agent sees all that interests him, and makes notes of it, but he does not write the history of a campaign until it has been brought to a conclusion.

"(Signed) Major-General CHARKEVICH,
Quartermaster-General."

There was nothing really to be said against the Russian censorship in principle, but the manner in which it was performed was, at times, perplexing owing to the stupidity of an official concerned, or his nervousness of assuming the very slightest responsibility.

The Russian authorities were perfectly justified in making their procedure as strict as they chose since foreign officers were not invited, but were merely permitted to follow the operations. Everything, including parcels, was examined, down to the date of my departure from the theatre of war, and if there had not been some instances of rather remarkable carelessness or foolishness, there would have been no legitimate cause for complaint as regards military attachés and the censorship.

(7 xi.) Climate.

It happens to many a man, on visiting a country for the first time, to discover that never in the history of the oldest inhabitant was the climate so extraordinary as on the occasion of his journey. In my case Manchuria was an instance of climatic vagary, for there was no rainy season in 1904 in the usual sense of the term. But the rainy season in Manchuria, namely July to September, is supplemented by occasional very heavy downfalls in spring and early summer, and those seasons were no exceptions to the rule in 1904. One day of wet weather followed by a fair amount of traffic rendered the tracks (for there are no metalled roads) across the plains, in the theatre of operations, almost impassable in many places, and always difficult, owing to the clayey nature of the soil. Guns and transport had to be abandoned by the Russians on several occasions owing to this cause.

None of them could conceive what a rainy season means to an army engaged in operations on a vast scale, and the intention was to proceed with these under any circumstances. It is quite certain, however, that if there had been the usual amount of wet weather in July and August, the armies must have remained mostly quiescent. As a matter of fact there was no rain at all, except once for half an hour, from the 29th June to the 4th August, so that both sides were able to follow their bent. Holes, four feet or more in depth, were frequently made by traffic after a fair downpour, and as such holes were full of liquid mud they were very dangerous.

Taken altogether, and after a good deal of experience in many countries, I consider the climate of southern Manchuria to be a very healthy one. The heat is not really very great in summer, and the cold in winter is compensated for by the country being in excellent condition for traffic. Night marches, and bivouacs without baggage or shelter, for days, with battles thrown in, are strong tests, and the troops suffered relatively little from the climate after such trials in the summer and autumn; of course a retreat in winter from Mukden to Harbin would doubtless be disastrous owing to the continual exposure.

(7 xii.) Clothing.

The details concerning the clothing issued to the Russian soldier need not be given here, as they are fully explained in the handbooks on the subject. During the spring, summer, and autumn of 1904 the troops wore the regulation uniforms of their respective regiments except the tunics. These were taken to Manchuria, and placed in store until winter should set in, being replaced by thin blouses of varying texture and colour, green, gray, blue, and so forth, but each regiment had blouses of the same colour with shoulder straps sewn on.

A few corps, and some of the principal officers on Kuropatkin's Staff as well, had linen khaki jackets, which were greatly in favour, but this material was not obtainable in large quantities in Russia. Khaki is not, of course, invisible or nearly so under all conditions; on several occasions owing to the light the Japanese troops dressed in khaki appeared to be clothed in black. The disadvantage of the linen khaki was that, when the night was cool after a hot day, the wearer was liable to get a chill or fever.

Each unit purchased, and made up its own clothing from Government funds provided for the purpose. The average Russian soldier is an adept in this respect, and he is also a very good bootmaker.

When the weather became warm in May, the fur bonnets were mostly laid aside, and the ordinary peaked forage cap was worn by all ranks, with cap covers of the same material as the blouses, but there were numerous cases of sunstroke, some of which terminated fatally. I saw a man get sunstroke as late as the 2nd September, during the battle on that day.

If officers are wearing helmets there should be some kind of forage cap which they can carry with them, either mounted or dismounted, without its being crushed permanently out of shape, for it may, and in the campaign of 1904 it frequently did happen to me to be separated for several days at a time from the first line of baggage.

Of course the operations from May to November entailed an immense amount of wear and tear of clothing, of which the boots suffered most; the Russian boots are the best I know. I saw thousands of officers and men in August wearing Chinese shoes, boots not being procurable. Large numbers of greatcoats were lost during the time of the battles at Liao-yang and the subsequent retreat to Mukden, and, as the nights were cold by the 9th September, a fresh supply was urgently needed from the base at Harbin. The difficulty was to get the new greatcoats to Mukden, owing to the congestion of traffic on the railway, while road transport was not available for the purpose.

The Red Cross Society did a good deal in the way of distributing small articles of clothing, such as gloves, cardigan waist-coats, and mufflers to the troops, but as winter drew near much more than this was needed. It was said—I do not know with how much truth—that there was an ample supply of winter clothing at Harbin for the entire army in the early part of September, but it was not brought to the front in time, and great quantities of Chinese garments padded with cotton were made at Mukden. The men were already suffering severely from the cold at night in October, and therefore this plan had perforce to be adopted, and doubtless induced the Japanese to think it was part of a scheme to delude them, which it certainly was not. The whole question is a very difficult one; the men would have died from the effects of the cold without the garments, while, on the other hand, the Japanese had a right to demand that Russian troops should not resemble peaceable Chinese inhabitants.

(7 xiii.) Communications (except Railways).

Considering that the war is being waged in Chinese territory, the force necessary to guard the Russian communications was remarkably small, and consisted, up to January 1905, at any rate, only of about 16 battalions of reserve troops, supplemented by dépôt troops and frontier guards. The field army, therefore, was not drawn upon to protect its rear, but there are, or were, of course, considerable forces at the great centres—Harbin, Mukden, and Liao-yang.

Small posts are stationed along the lines of communication at various points in order to disperse marauding parties, or keep them in check until assistance could arrive, and the bridges are carefully watched. The native population was very quiet as a rule, but the *Hun-hu-tzu* sometimes caused trouble. These brigands, however, rarely go about in large bands, and often become highwaymen owing to lack of other means of subsistence.

I often thought that if the Japanese had been enterprising between May and August, they could have inflicted very severe damage upon the Russian army by striking at its communications, in which case Kuropatkin could not, I believe, have assembled by the end of August 1904, anything like the force which he then had under his hand.

The rivers in Manchuria are numerous, and often very broad; when not frozen over they must be crossed either by the railway bridges or by fording, but their shifting sands frequently render the latter operation a sufficiently dangerous one. They rise very rapidly, as an instance of which it may be mentioned that the river at An-shan-tien, about twenty miles south of Liao-yang, rose about eight feet in less than four hours on the 17th August 1904, but became fordable in places again during the following day. Those large rivers which have always plenty of water in them take some time to freeze over; the cold at Harbin was very great during the first week of December 1904, but the Sungari was not then completely covered with ice.

The Russians are habitually extremely negligent about roads. They built substantial towns of brick or stone at Liao-yang, Mukden and Harbin, but at the first-named city, for example, there was no pretence at proper road-making. Heavy rain fell during the night of the 2nd/3rd May 1904, and the roads at Liao-yang were extremely bad afterwards. One of Kuropatkin's aides-de-camp told me at the time that in the preceding March the ground was in such a state that some men actually stuck fast, which I can well believe. On the 2nd July 1904, I happened to be at Liao-yang, and there had previously been a good deal of rain, the road leading from the railway station to

the Head-Quarteroffices was literally almost impassable, and no attempt was made to improve it.

The Russians appeared to think that the single line of railway was almost the only necessary line of communication. They constructed a military road to the south from Liao-yang, but heavy traffic and a few hours rain in August made holes in it four feet in depth. It is not surprising, therefore, that loads, whether draught or pack, had to be lightened, but all this should have been foreseen from the very commencement of the war, as the Russians had been in occupation of Manchuria for a considerable time previously. The bad state of the roads frequently upset all calculations concerning the movement of troops and their baggage, and it was impossible sometimes to keep any order at all on the march. When the tracks were only fairly bad, bundles of large millet stalks were often made up like fascines, and were effective for some time in places.

Owing to the clay soil, and the vast extent of the theatre of operations in Manchuria, it would not have been possible for the Russians to have made roads in our sense of the word ; but, at certain times of the year, these, such as they were, could have been maintained in considerably better condition than was actually the case, and the mobility of the army would have been much increased.

(7 xiv.) Cooking.

There is an excellent type of travelling kitchens which has been for several years in use in the Russian army. I first saw them in Turkestan in 1894, and they were so simple and strong that I felt convinced that they would be admirably adapted for use on a campaign in any region practicable for a draught mule or horse; this conviction has been amply justified by the experiences of the campaign of 1904, and I cannot recommend too highly the Russian type of troop kitchen for all arms—mounted or dismounted. There is no necessity to reproduce the details here. I cannot call to mind one instance that I know of, either in a hilly region or in the plains, in which these kitchens were unable to accompany their units, while the roads in the plains were frequently in such a state that guns, transport, and even single limbers had to be abandoned. Provided rations were issued, which was by no means invariably the case, the kitchens cooked them, and cooked them well. It is difficult to conceive the condition into which tracks, like those in Manchuria, get after rain combined with heavy traffic, and these kitchens stood the test. Anybody can imagine the comfort to troops, and their consequent increase of efficiency, when they can have their hot meals at any hour and in any weather, either on the march or on arriving at the end of their journey, the time and trouble saved to all concerned being a factor of the greatest importance in war, when sudden moves by day or night are necessarily of frequent occurrence.

(7 xv.) Correspondents (War).

When we consider the abject condition of the Russian Press, which is dependent on the whims of censors who are, sometimes, very incompetent men, it is not to be wondered at that several difficulties were thrown in the way of foreign war correspondents joining the Russian army at all. These gentlemen are in an unenviable position always, for every general in command of an army would prefer that no information of a military kind should be divulged except what he gives to the world. A war correspondent—however much he may be trusted to communicate nothing intentionally that ought not for the moment to be divulged—is frequently not capable of estimating correctly what might or might not be detrimental to the interests of the force to which he is attached.

When the above facts are borne in mind, it must be admitted that the Russian authorities behaved generously in permitting foreign correspondents to be in the theatre of war.

Some time, however, elapsed before the Russian authorities adhered to the conditions laid down, but I believe this delay was partly due to friction between the Viceroy and General Kuropatkin. The former had permitted correspondents to arrive, and had drawn up the regulations by which they were to be guided, so that the Commander-in-Chief thought the Viceregal Staff might as well look after them. The consequence was that the Press correspondents were detained at Mukden for several weeks.

The British and American correspondents were undoubtedly regarded with very great suspicion at first, but, as time went on, they had all the facilities which were granted to other journalists, and, indeed, more freedom of movement in some cases, so that they saw more of the operations than their colleagues. None of the journalists, however, were permitted to telegraph much news of interest. As regards communication by means of letters, however, some of the most experienced correspondents told me that no undue restrictions were imposed in this respect.

One of Reuter's representatives was not allowed to telegraph to his employers in July suggesting his recall owing to inability to telegraph news. He eventually fell purposely into the hands of the Japanese, when they occupied Liao-yang, but found the Japanese censorship so much more stringent than the Russian that he escaped at Ying-kou and returned to Kuropatkin's army, having meanwhile despatched an uncensored telegram which reflected very unpleasantly on the Russian officers. In spite of this he was allowed to remain and go about as before,

so that this is certainly an instance of rather far-stretched generosity.

Having once got the correspondents, however, the Russian authorities did not, in the first stages of the war, like any of them leaving, but, as time progressed, no difficulties were placed in the way of those who wished to depart, provided that they travelled by way of Russia.

No doubt it was annoying to newspaper proprietors to get little value for their money, but they are not invited to send correspondents, and I do not think the latter were at all unfairly treated when once matters had settled down. They had, indeed, much to be thankful for in increasing their stock of military knowledge.

(7 xvi.) Engineers.

The engineer troops of the Russian army in Manchuria were very efficient in all kinds of field fortification, in constructive railway work, in making bridges, and in establishing field telegraphic or telephonic communication.

I have only one criticism to make concerning those troops, which is, that they were sometimes apt to let the air-lines slip so near the ground as to render it necessary for mounted men to keep a careful look-out so as not to be caught by the wires, the poles of which are a fair height. Nothing seemed to damage the cables.

(7 xvii.) Equipment.

As a general rule the equipment of the Russian troops in Manchuria was in accordance with the regulations.

There is no doubt that the total weight, namely, 56 lbs. (including clothing), carried by the Russian infantry soldier was much too heavy in the summer, and greatly reduced the mobility of the troops. The Commander-in-Chief recognized this fact in August, and ordered either the great-coats or the kitbags to be carried in carts, but this order was by no means invariably obeyed, for, on the 11th August, when some of the troops of the 1st Siberian Corps were being practised in taking up a position, they had to climb some steep hills and were fully laden, on a very hot day. Not a man fell out, which was remarkable, but the soldiers would have reached the crests in about half the time which they actually took, and would not have been exhausted on getting there, had they been more lightly equipped.

There were exceptions to the general rule of identity in equipment; the Xth Army Corps, the first reinforcements to arrive from Europe, came from one of the most important military districts of the Empire, that of Kiev, and the men, who were serving with the colours when mobilization was ordered, had aluminium mess tins, while the reservists, who were not at first in such good condition as their comrades, had the heavy old copper ones.

I also found that units which might have to join the field army, but were not expected to do so, had neither waist-belts for cartridge pouches, nor even water bottles issued to them, although they were fully armed. The supply of water bottles was woefully short; in fact, there was no reserve stock anywhere, unless at Harbin, whence they did not come. The aluminium water bottle of the Russian army is admirable, and is mentioned in the section on "Water."

The leather cases for the infantry soldiers' Linneman spades, which are very good ones, looked strong enough, but I saw that large numbers were torn and the spades lost during the battles of Te-li-ssu and Liao-yang. On the 28th September, the twenty-four battalions of the 1st Siberian Corps ought to have been in possession of 7,680 spades, but they only had 5,000 left, while 1,500 more were expected from Harbin.

I asked several infantry soldiers during the battle of Liao-yang, whether they preferred the kitbag, slung over the left hip, which is a cumbersome thing to look at, to the knapsack, and the replies were unhesitatingly in the affirmative, on the ground that the chest and lungs have so much more freedom with the kitbag.

In addition to the two ammunition pouches, the men wear a bandolier of canvas—black outside and white inside—with a strap and buckle. It has six divisions to take six packets of five cartridges in clips in each, giving a total of thirty rounds. This bandolier (universal pattern) looks fragile and weighs only a few ounces, but I never observed a torn one.

The Russian sword belt is slung over the right shoulder, and is simple, strong and light. It has the great advantage that the sword in no way inconveniences a man when dismounted, and it does not require the use of a hand to hold the scabbard when on foot.

I was sorry I had not cruppers for my saddles. I had Russian and Caucasian horses, besides Mongolian ponies, and, do what I could, I never was able to prevent any one of my saddles from getting too far forward. My opinion is that fewer foreign animals would be lost from exhaustion if cruppers were used.

Owing to the peculiar conditions of light which often prevailed, and the long range of modern guns, I am certain that every battery ought to be provided with a first-class telescope and tripod. My field glasses are the best that Goerz can supply, and they are admirable, but there were occasions when I could distinguish little of the Japanese by using them, while I saw them quite distinctly with a telescope.

Considering that indirect fire may, in future wars, be employed by field artillery more than direct fire, brigades of artillery ought to be provided with a telephone, in which case the observing post for correcting the fire may, if desirable, be out of sight of the batteries, in order to obtain a better fire effect.

(7 xviii.) Forage.

In the summer the forage ration was supposed to be 7·2 lbs. of barley, 4·5 lbs. of bean cake, and 7·2 lbs. of hay, an extra 3·6 lbs. of hay being sometimes substituted for the 4·5 lbs. of bean cake.

Officers commanding regiments instead of purchasing forage for their troop horses with the allowance made to them for the purpose, would frequently ration the horses by sending out men to take grain or grass from the Chinese. Manchuria being an extremely fertile and highly cultivated country, there was not much difficulty in carrying out this plan on a large scale in the summer and early autumn.

The waste and improvidence were tremendous; in many districts of the theatre of military operations the crops had been unavoidably ruined by the troops, but the harvest had been very abundant nevertheless, and there were large supplies of forage around Mukden in September. Yet men would burn millet stalks, which are capital food for horses, sooner than walk even five-and-twenty yards to fetch some first-class firewood. It was not to be wondered at, therefore, that after the battle of the Sha Ho in October there was great scarcity of forage. The Chinese had saved and hidden what they could, and there were huge supplies in the north around Harbin and Kirin; but the Chinese would not cart it down south. They feared, what very likely would have happened, namely, that they and their carts would be commanded for transport purposes. Properly managed, an army of half a million of men could get forage in Manchuria for its horses.

(7 xix.) Fortification.

The Russians are real experts in field fortification, both in constructing works themselves, and in supervising hired labour when the projects are too vast for them to carry out, as in the case of the defences which encircled Liao-yang.

Time did not, of course, always permit of elaborate field fortifications being made ; in the case of the battle of Te-li-ssu, for example, the defences on the right flank were fire-trenches about 9 inches deep, 36 inches wide and with parapets about 15 inches high. On the left flank, however, were some redoubts, but as time had not sufficed to construct elaborate shelters in them, they served rather as shell traps on the 15th June 1904.

It may, I think, be said to be characteristic of the Russians to select, and tie themselves down to prepared positions, even when intending to assume the offensive, as at Te-li-ssu. The mobility, never very great, of their forces is thus much impaired, while, when acting on the defensive, they adopted a purely passive attitude, which can seldom gain victories. It seems as if they reasoned that, because the Turkish army at Plevna repelled their assaults, the best thing to do is to construct a series of entrenchments, and remain in them, until a fresh chance of digging their way forward occurs.

From May to October inclusive, the force to which I was attached constructed field works in eight different localities, sometimes months before the situation had been defined, when it would have been preferable to exercise officers and men in field tactics and firing. In two cases, namely, at Te-li-ssu and on the Sha Ho, the works were not very elaborate, but in the six remaining instances they were exceedingly formidable, and were only really made use of once, namely, at Liao-yang. The works at An-shan-tien, Hai-cheng, Kai-ping, and Mukden were never required during that period, or later, to the date of my departure on the 1st December, while at Ta-shih-chiao the battle was purely an artillery one so far as the 1st Siberian Corps was concerned.

But this does not detract from the merit of the works themselves. Those round Liao-yang formed a very complete system, the fortifications being connected by traversed and deep trenches, with wire entanglements and military pits, in which were placed upright and sharply pointed stakes.

The fortifications at An-shan-tien had been commenced in April, and were elaborated by General Stakelberg in August. They were divided into three lines, namely, the outpost line, an intermediate line, and the main position. In the last-named were both redoubts, with good interior cover, and trenches. Some of the earlier works in this main position had dead ground in front, but the cream of the defences was to be found in the

outpost works, which had been constructed by the 1st Siberian Corps under General Stakelberg's directions, and those of his engineer officers. Stakelberg had served as a young cavalry subaltern in the Russo-Turkish War of 1877-1878, and was probably impressed by Plevna.

The outpost trenches of the 1st Siberian Corps were flanked by others hidden in the high crops, so that these were not visible until one was right upon them. All the trenches were of very good profile for men standing up, were well concealed, and had no dead ground in front.

The intermediate position, previously mentioned, was also Stakelberg's work, and was about a mile south of the main position. It also had very deep trenches, and closed redoubts of strong profile, with traverses and ditches. The redoubts were about six hundred yards from each other. Each redoubt was intended for a company of infantry (say, two British companies). There were likewise plenty of gun emplacements, and gun pits for eight gun batteries intended for direct fire so as to conceal the guns.

When these formidable defences were occupied by General Oku's troops without a blow, owing to the general retreat to Liao-yang, the Japanese must have felt, one would imagine, that the Russian army had lost all heart.

Some of the trenches, occupied on the heights by the 1st Siberian Corps on the 30th and 31st August, to the south-west of Liao-yang, had bombproof shelters in rear of them, so that the garrisons could remain safely in them until the last possible moment. A few of the shelters, however, had not enough overhead cover against modern shells.

The defences constructed by the 1st Siberian Corps on the north bank of the Hun Ho, near the Eastern Imperial Tombs, after the retreat from Liao-yang to Mukden, were also excellent, the trenches being narrow and deep, with a good many shelters, while the islands in the broad river in front had been cleared of all trees and cover—a great work indeed. The spade is a very important implement in war when properly directed.

When the Russian advance from Mukden to the Sha Ho in October had been stopped, field works were thrown up. Those of the force to which I was attached were less strong than usual, and some were also too much exposed on the crests of the hills, for which I heard General Stakelberg soundly rate the officer responsible, who did not seem to mind.

I was present at battles on fifteen days in 1904, and the conclusion to which I have come concerning field fortification is that on the defensive only deep and narrow trenches are much use against good shrapnel fire, the shallow ones for men lying down giving very little protection, while at least 50 per cent. of infantry should carry a spade, which can be of the greatest value in attack as well as in defence.

(7 xx.) Honours and Rewards.

In time of peace there is a regular annual distribution of decorations in the Russian army, altogether distinct, of course, from special favour shown to individuals. A regiment of four battalions, say, eighty officers, will have two or three decorations of one or more orders of knighthood placed at its disposal every year, and the colonel of the regiment generally selects the recipients.

In time of war these distributions are made on a far more liberal scale; a subaltern of a year's service, for instance, may receive a 4th Class of the Order of Saint Vladimir, whereas, in peace time, an officer must have twenty years' service before he is even eligible for it.

The Order of Saint George is the highest military decoration in Russia, and like the others, consists of several classes, while there are also four sets of St. George's medals for the non-commissioned ranks, the highest of the four being of gold.

The St. George is given, or supposed to be given, for exceptional personal valour only, but, in practice, this very frequently indeed is not the case. I know a subaltern of six years' service, who has "protections" in St. Petersburg; he went out one day with three men on a scouting expedition; I believe he did see some Japanese, and he was awarded the Order of Saint Vladimir. He then told me that he ought to have received the St. George, but, not having done so, he had written a long letter to the colonel of his regiment at St. Petersburg, which would certainly create "thirty-five new enemies for Kuropatkin." I am sorry to say that this sort of thing is but too common, and can one wonder that the public service in Russia suffers in consequence?

After the defeat at Te-li-ssu, General Kuropatkin announced that any wounded soldier who did not quit the ranks should receive the medal of St. George, which was rather hard on those who were wounded so severely as to be obliged to be taken to hospital.

Not one victory crowned the Russian arms up to the date of my departure on the 1st December, but lavish distributions of honours and rewards were made after Te-li-ssu, Liao-yang, and the Sha Ho, and a Russian officer told me quite seriously one day after the last series of battles, that the honours list was not really a large one, because "there are still several officers in the army (in Manchuria) who have not yet received anything!"

I heard a staff officer of the 1st Siberian Corps criticize the grant of the St. George's Cross to all the survivors of the *Variag* and *Koretz* for merely doing their duty, while so few deserving troops had been thus rewarded.

(7 xxi.) Horses and Mules.

The number of riding, pack, and draught animals required for the field army in Manchuria was, of course, immense. The regular cavalry and artillery had an establishment of some 20,000 horses in August, and the Cossack cavalry and artillery one of about as many more. I have no accurate information concerning the number of transport animals which were either purchased or hired, but it must have run into many 'tens of thousands.

As may be imagined, there was great diversity of breed among the horses, which were Russian, Caucasian, Siberian, or Mongolian. The cavalry and artillery from European Russia brought their horses with them, and they were the largest in size. The next smaller ones were those from the Caucasus and Siberia, while the smallest of all were the Mongolian ponies.

The first named had to begin with a tremendously long railway journey, many coming from Warsaw, or the south of Russia, say, a distance of 6,000 miles. From Wirballen, on the eastern frontier of Germany, between St. Petersburg and Berlin, the official time table allowed thirty-two days for a troop train (in April) to Liao-yang, but the average time actually required in the spring and summer of 1904 was fifty days. I should think that a horse from Russia usually spent more than a month in getting to Liao-yang. The horses brought from Europe were halted for a day now and again, and taken out of the trucks for walking exercise.

These horses bore the fatigues of such a journey remarkably well, and fully confirmed the very favourable opinion which I had previously formed concerning them. They also withstood well the hardships of the campaign, often on bad and scanty forage, when the country was in a terrible state from rain.

The Caucasian horses stand about 15 hands; they are hardy, those of the Khabardin breed being the best, as they are such splendid hill climbers.

The Siberian horses are of two kinds, large and small. The former come chiefly from the Tobolsk district, in Western Siberia, but they seem, curiously enough, to have less stamina than those from Russia. The smaller Siberian animals from West and Central Siberia stand about 14 hands 2 or 3 inches on an average, and are used by the West and Central Siberian Cossacks. They are very hardy. East of Lake Baikal the ponies are smaller, and are used by the Trans-Baikal, Amur, and Ussuri Cossacks, but they too have great endurance.

The smallest animals of all are the Mongolian ponies, which are about from 13 hands 2 inches to 14 hands high. They are

hardy, and, owing to their extraordinary thick winter coats, do not feel the cold, however severe.

Generally speaking, all four breeds which have been mentioned are impervious to climatic influences. Likewise, they will all eat anything with relish, even the dirty old thatch off a Chinese house, but when, after this, they are put on ordinary forage, grain or grass, they are apt to suffer for a time from looseness.

Horses were generally shod all round except in the Cossack regiments, where hind shoes were usually omitted, with no evil results.

The Mongolian animals disliked firing from the enemy's side more than the other breeds. I rode a Khabardin horse for his first time in action on the 2nd September, and he paid not the smallest attention to shrapnel or musketry fire, and this was not a singular instance.

There were three methods by which remounts were procured. A remount depôt had been established in Harbin for cavalry and artillery other than Cossack. But this depôt by no means sufficed to make good casualties, so that the officer commanding a dragoon regiment or a battery would despatch an officer with a sum of money wherewith to purchase in the open market, and he would very likely have to go at least as far as Tsitsihar.

The third system of obtaining remounts is applicable to Cossack cavalry, where each man owns and has to provide his pony. If one is worn out by exhaustion in war, or is killed in action, the Cossack receives a sum of money wherewith to procure another. As may be imagined, in the case of Cossack cavalry at the front this system caused numbers of men to be dismounted for a considerable period owing to their inability to purchase fresh animals. Cossack artillery and transport is horsed by the Government, commanding officers receiving money for this purpose.

None of the horses or ponies ever had any clothing, and did not suffer in consequence, as they were not accustomed to blankets. Valuable private horses in St. Petersburg are kept in very close stables; they take their owners out to dinner, and then on to a ball, standing for hours in the rank, with the thermometer showing perhaps 45° Fahrenheit of frost. As they are always driven at the rate of about fifteen miles an hour they sweat heavily when pulled up to stand, yet they have no clothing, and it is very rare to hear a roarer.

Horses were watered three times daily when possible: in hot weather for the first and third occasions about sunrise and sunset, when the temperature was relatively low. Russians generally water a horse after he has been fed, and never when he is warm if they can avoid doing so. Sometimes, but rarely, the horses would be lightly wisped over with straw; as a rule they cleaned each other. Winter had set in when I left the army, and there was no stabling, but the horses did not seem

to suffer from 35° Fahrenheit of frost, accompanied by the peculiarly bitter north wind of Manchuria.

Notwithstanding the endurance of the horses generally, there were, as would be anticipated, many casualties apart from losses by the enemy's fire. The 1st Siberian Corps, for example, lost a number of horses during the retreat from Te-li-ssu in June, in hot and changeable weather, owing to the very heavy going, and the rivers, which had a quantity of shifting sands. I observed at that early stage of the campaign that the big European horses of the cavalry and artillery had shown greater endurance than the others, and I am still of this opinion.

By the month of June prices had risen enormously, and, at times, it was not possible to buy an animal at all at any figure. The reason for this was that a Russian transport officer, for instance, would ask a Chinaman how much he wanted for his pony, and the reply might be 35*l*. The Russian would then, without explaining anything, take the animal and give the owner an order on the paymaster for, say, 20*l*. The consequence was that the Chinese frequently, indeed generally, drove away their stock, so that nobody could purchase any. This explains why Cossacks, as already mentioned, were often unable to procure new ponies.

Russians are very gentle with horses, and manage them well. One of my Russian servants once marched four of my horses and a cart a distance of sixty miles in four days. He had some big and nasty rivers to cross, and two of the horses were always biting each other.

When the Russian army retreated from Liao-yang to Mukden in September, I thought that the horses were looking very well, considering their extraordinary exertions and scanty food during the preceding week or two.

A few words must be said about mules, which, like horses, vary. The chief of the Spanish military mission advised me never to buy a mare mule, and, from what I saw of their temper and endurance, I was grateful for the advice. Mules, like horses and ponies, were in such demand that the tiniest of them would fetch remarkable prices. The best mules were beautiful animals, but these were not to be bought. Really good ones for pack or draught work could be obtained sometimes for prices varying from 18*l*. to 30*l*., and such a one was well worth it. The Chinese manage mules much better than Europeans do, the latter generally giving them dreadfully sore backs.

(7 xxii.) Infantry.

The Russian infantry is of two kinds in time of peace, and is termed "regular" and "reserve" respectively. The former has an establishment, in peace time, of one-half or three-quarters of the war strength, except the troops in the Far East, which are always on the war establishment. The second class of infantry consists of mere cadres, which expand many times on mobilization by drawing in reservists who have previously served with the colours. For example, a Siberian "reserve" battalion has, perhaps, 700 men in peace time, and expands on mobilization into a regiment of four battalions and one independent battalion, say, about 5,000 men in all. The regular infantry, therefore, expands to perhaps twice its peace strength on mobilization, and the "reserve" infantry to seven or more times its peace establishment.

It is obvious, then, that a unit of the latter has had far less recent training than the former, and yet the fact remains that those "reserve" troops did at least as well, except once, according to both Russian and foreign eye-witnesses, as the regular troops of the army when in face of the enemy. Why this should have been so I cannot say for certain, but the general rule seemed to hold for all "reserve" infantry. The reserve divisions composed of Siberians, formerly looked down upon, were the best, probably because the exiles have spread education in Siberia. The exception was the panic which seized a "reserve" division at Liao-yang on the 2nd September, and that was due to its general.

It follows, therefore, that, so far as the Russian army is concerned, "reserve" formations are suitable, and they are, of course, extremely cheap in normal times.

On the other hand, the large number of men required for them on mobilization is very much greater than the number necessary for a similar unit of the regular army, and as most of the "reserve" formations in 1904 came from thinly populated districts, the latter were at times denuded of men of the regulation physique. As the campaign progressed I noticed several men in the ranks even of "regular" troops who looked weakly, and a medical officer of the 1st Siberian Corps told me, as far back as the 24th August 1904, that men of less than the regulation physique were being taken sometimes, and drafted into the ranks, while men of fine physique, as I saw myself, were left as servants and orderlies, or employed with the baggage trains.

The mounted scouts of an infantry regiment are taken from amongst the most intelligent rank and file, and are certainly good men. It is, however, doubtful, I think, whether they are

not more numerous than is necessary for so small a unit. The Russians do not have mounted infantry in our sense of the term, and may have suffered a good deal in consequence.

As a result of the very nature of "reserve" troops, there were to be seen in their ranks numbers of men aged 35 years or even more, because the older classes of former contingents had to be drawn upon earlier than in the case of the regular forces. Some people imagined that there were privates of 50 years of age or older, but this is a mistake, the general appearance of many giving them the look of men past middle age.

The XVIIth Army Corps required a considerable time before its men were in good training, for it reached the theatre of war in the summer, after a very trying railway journey, and, being a Moscow corps, many of its reservists were town dwellers, unable, at first, to march, and carry a very heavy load under trying climatic conditions.

A fortnight before the battle of Te-li-ssu, the companies of the 1st Siberian Corps, which had not yet been in action, averaged only about 180 men each, a deficiency of nearly 20 per cent., and this may, I believe, be taken as a typical case for troops before their first battle in 1904.

When the roads were extremely miry owing to rain, distances could not be kept, of course, but, even when the conditions were favourable, distances were usually very badly kept, except on purely ceremonial occasions, and often increased to an inordinate degree the length of a column. When the weather was hot, however, it was not to be expected that troops laden like the Russians were, could keep proper intervals continuously even on fair roads.

Colours are always taken into action, and were sometimes flying, sometimes carried cased.

The habit of the Russian infantry of invariably marching with fixed bayonets, even in the case of single orderlies, may, I think, be denounced as a dangerous one, especially when good order is not maintained on the march. A man suddenly turns his head and shoulders, which may easily cause his bayonet to put out the eyes, say, of a mounted man who, owing to the crowding, cannot get away.

Whenever I saw the Russian infantry retreating under fire, it did so in good order. I have heard of wild flights in cases other than that of Orlov's division at Liao-yang on the 2nd September, but I never saw an instance of this, and all the battles in 1904 ended in complete or partial retreats.

In conclusion, it must be admitted that the Russian infantryman has many admirable military qualities. His great want is good training. With really efficient leadership it is difficult to prophesy what he might not be able to effect, for he can march, fight and endure.

(7 ~~xxiii.~~) Intelligence (Military) and
Reconnaissance.

These two subjects are so intimately connected with each other that it is better to group them into one report.

There is little to tell about information concerning the Japanese, because the Russians were themselves badly informed, and therefore, with the best will in the world, had little to say.

Russian officers on the Head-Quarter Staff and others, on whom I could rely, told me this. They all said that Chinese spies were their chief sources of information, and very unreliable, even when faithful to their employers, owing to the workings of the Oriental mind, which favours saying agreeable things and is sketchy about figures.

Before the war broke out, the General Staff at St. Petersburg was badly informed as to the quality and strength of the forces which Japan could place in the field, and maintain there. It had, like some other foolish individuals, of whom I was one, egregiously under-estimated the fighting capacity of Japanese soldiers, but there was no excuse for ignorance concerning the numbers which the military laws could organize. Still more extraordinary was the manner in which the best men in the Russian army adhered, even up to the end of November 1904, to the view that from 300,000 to 400,000 men was the extreme limit of numbers which Japan, with a population larger, I understand, than that of France, could put in the field. A general said to me on the 11th September, after the retreat from Liao-yang to Mukden, that the Japanese could not have any more men available, and that they must have then already lost 100,000 troops. I replied that I could not see why this should be the case, seeing that compulsory service had been the law in Japan for many years, and that a new annual contingent would soon be ready.

These facts speak little for the work done by the Russian Great General Staff in time of peace, when it had had years in which to ascertain the truth.

When military operations had actually commenced, it was the object of the Russians to discover what forces lay in front of them, and for this purpose it was essential to reconnoitre frequently and intelligently. Yet what happened as a rule? The smaller reconnaissances effected little or nothing, so I was informed by several Russian officers, because they were not carried out with proper energy. I confess I do not believe that the Cossacks, of which the Russian cavalry was entirely composed with the exception of three regiments of dragoons and some frontier guards, are of any use for scouting. Whether it

be want of training, or dislike to running risks, or both, I will not affirm, but the fact remains that the Russian cavalry was pretty well worthless in 1904. One result of this was seen in the numerous orders and counter-orders—entailing great and needless fatigue on the troops—which were frequently issued owing to inaccurate reports.

As far back as May 1904, General Kuropatkin, so an aide-de-camp to General Stakelberg told me on the 22nd of that month, felt compelled to issue an order enjoining greater care in reconnaissance duties. General Stakelberg had received a report from a Cossack officer, less than a week before the advance to relieve Port Arthur was finally settled upon, that two strong Japanese columns were retiring towards the south*; and it was shown subsequently that the Cossack had jumped to a hasty and wrong conclusion.

Stakelberg was induced, and very frequently rightly induced, to pay little or no attention to the reports of his cavalry patrols, and so it happened, on the 13th June, that he did not believe the Japanese were advancing northwards towards Te-li-ssu with anything like the 20,000 men which his cavalry brigadier, Samsonov, had reported they were doing. On this occasion the cavalry was right. A further result of the cavalry being judged by its previous scouting work was that Stakelberg's chief staff officer, himself a cavalryman, did not even inform his general on the night of the 14th-15th June that the reconnoitring parties had reported the Japanese to be threatening the Russian right in force. By the afternoon of the 17th June Stakelberg's reconnoitring parties had managed to lose touch with the Japanese for a time. They had found out where the enemy was not, but not where he was.

It may have been due to the poor results of the more restricted Russian reconnaissances, that undertakings on a larger scale were carried out from time to time, in various portions of the theatre of operations, so as to locate the enemy, but reconnaissances in force, if they do not or cannot at once follow up an advantage gained, may end badly for the troops making them, and 1904 affords several instances of the truth of this statement.

The Russian military intelligence and reconnaissance duties were badly performed prior to and during 1904, chiefly owing to defects in the national character, which are not likely to be eradicated.

I know, of course, nothing as to the method by which the Japanese acquired their intelligence in the field. Prior to the battles of Te-li-ssu and Liao-yang they felt their way with their advanced troops, but they do not seem to have been so well informed as the Russians gave them credit for. If they had been, Liao-yang and Mukden could have been easily

* Major-General Akiyama's detachment did so retire.

occupied by them in the summer of 1904. It was always thought that they had accurate information as to the strength and distribution of the Russian forces. If they had, they failed to take advantage of it. They may have distrusted it, but really good reconnaissance would have disclosed to them the true state of affairs. Reconnaissance offers such opportunities to a mobile and resolute army that its importance can scarcely be overrated.

(7 xxiv.) Losses in Action.

The campaign of 1904 in Manchuria was remarkable, among other things, for the extraordinarily heavy losses which the Russian army suffered in action, without being decisively defeated in a great battle.

Up to December 1904, those Russian authorities who estimated in my presence the losses suffered by the Japanese in action, invariably calculated that their enemy must have lost from 75 to 100 per cent. more men at least than Kuropatkin's army. For my part, I always thought that the Russian losses were the heavier, and on those rare occasions when I was able to read the Japanese official accounts afterwards, these bore out my view, which was based on what I had observed with my own eyes in portions of great battlefields.

A curious point about the Russian losses in action was that these were not in any instance, so far as I know, reckoned up and reported quickly to Army Head-Quarters. As a case in point, I may say that on the 1st September, after the two preceding days of desperate fighting at Liao-yang, the Commander-in-Chief called for an accurate "Field State" of the 9th Division of the 1st Siberian Army Corps, and some surprise was evinced at this, although, in the critical state of affairs, General Kuropatkin certainly ought to have known daily the number of effectives at his disposal.

I was never allowed to see the official returns of losses, but I heard of them from time to time, and the evidence of my own eyes was sufficiently convincing.

At the battle of Te-li-ssu, in June, the Russians lost about 12 per cent. of their effectives; at Liao-yang the corps to which I was attached lost nearly 20 per cent., and during the battle of the Sha Ho, in October, the Eastern Army lost during the first three days, 11th, 12th, and 13th October, at least 16 per cent. of its effective strength. These figures are an eloquent tribute to the discipline and stolidity of the Russian soldiers, and prove that failure after failure does not deter the survivors from suffering very heavy loss without being routed. Twelve per cent. of killed, wounded, and missing (and the number of the last was small) is a very high figure for a large force, for some battalions or batteries invariably suffer much more than others.

On the 15th June, the Russian losses during the retreat from Te-li-ssu were very heavy, but at Liao-yang and on the Sha Ho the losses of those troops to which I was attached occurred almost exclusively during the battles.

Prior to the battle of Te-li-ssu, each infantry regiment of the 1st Siberian Corps, which had not then been in action, had about 2,160 rifles, and during that battle one regiment lost 747 and another over 700 officers and men, that is to say, 84 per cent.

The casualties were not all made good before Liao-yang, where at least six out of the twenty-four battalions of the 1st Siberian Corps only numbered about 550 rifles each. One battalion of that corps went into action at Liao-yang about 600 strong on the 30th August, and when firing died out at dusk on the following day, it had only about 80 men left; it belonged to the 34th East Siberian Rifle Regiment. On the other hand, the three battalions of the 2nd East Siberian Regiment only lost 68 men killed and wounded during those two days. On the 2nd September some of the companies of the 4th East Siberian Rifles went into action with less than 80 men, while those of the 1st East Siberian Rifles of the same division, namely the first, had from 150 to 160 effectives each.

I heard the officer who commanded the 9th Division inform his corps commander that the 34th East Siberian Rifle Regiment lost 1,700 killed and wounded in the first two days of the battle at Liao-yang; in other words, the three battalions were nearly wiped out, and the 12th Company of that regiment, which had only been raised about five months previously, had remained steady at a highly critical period, when it had no officer left.

I was also present when the officer commanding the 35th Regiment of the same division reported to General Stakelberg that he lost 508 men killed, wounded, and missing during the three days the regiment was engaged at Liao-yang, or nearly 23 per cent. of its strength on going into action. Regiments varied a good deal, because this one had 1,800 of all ranks combatant and non-combatant, left after the retreat from Liao-yang.

A curious fact should be mentioned with regard to the four field batteries belonging to the 1st Division of Stakelberg's corps, the 1st Siberian. The officer commanding it reported to his corps commander that they had lost 124 killed and 40 wounded on the 30th and 31st August.

I counted the men in several companies of the 1st Siberian Army Corps, as they were crossing the bridge over the Hun Ho into Mukden on the 7th September from Liao-yang. The establishment of rifles in each being 220, the following are some of the actual effectives in various companies: 72, 114, 147, 153, 62, 105, 75, 90, 105, 203, 149, 105, 79, 97, 107, 157, 181.

Two days later I met the 21st Regiment of the 6th Rifle Division of the 3rd Siberian Corps, and its companies varied from 93 to 160 men.

Briefly put, the 1st Siberian Corps had lost in killed, wounded and missing about half its effective combatant strength,

so General Stakelberg told me, from its first day's battle at Te-li-ssu on the 14th June down to its arrival at Mukden, on the 7th September 1904. In the above losses are included 190 officers.

I heard that General Kuropatkin received some 60,000 fresh troops and reservists after his retreat to Mukden, and before the advance to the Sha Ho in October. At 7 a.m. on the 12th of that month, namely, the second day of the battle of the Sha Ho, I counted the companies of the 19th East Siberian Rifle Regiment of the 2nd Siberian Corps, which had not yet been in action since Liao-yang, and they only averaged about 150 men in each.

During the first three days of the battle of the Sha Ho, namely, on the 11th, 12th, and 13th October, the 9th Division of the 1st Siberian Corps lost about 2,000 men, and practically did not gain an inch of ground; of this division the 34th Regiment lost 17 officers and about 800 men, and had, by that time, lost nearly its establishment in numbers during the campaign. The 23rd Regiment of the 6th Division of the 3rd Siberian Corps of the Eastern Army, which corps suffered the most in that army during the battle of the Sha Ho, lost 616 officers and men during the 11th, 12th, and 13th October, and another regiment of the same corps lost, I believe, about 800 men during the same period. All these regiments have three battalions each.

On the 28th November a Russian officer who usually minimized the losses during the war, told me that the battle of the Sha Ho cost the army 80,000 men in killed, wounded, and missing, but information from other sources leads me to think that more than 90,000 casualties would be nearer the mark, in any case, however, something between 30 and 40 per cent. in the course of a fortnight.

I have gone at some length into the losses in action suffered by the Russian army in 1904, because they show how stubborn and tenacious the Russian soldier is, good leadership and good training being what were lacking. The Russian troops suffered tremendous losses without the army ever being actually put to flight, although, as I overheard some private soldiers say, they had no hope of victory when ordered to assume the offensive. A general, who had certainly done uncommonly well at Liao-yang, told me on the 4th October, that one must not call too often upon the same troops for extraordinary exertions, and I have no doubt he saw, in his own mind, the advance which commenced on the following day foredoomed to failure, gallant as was his share in it.

(7 xxv.) Machine Guns.

Machine guns were not much in favour with the Russian military authorities during the opening stages of the war. The 1st Siberian Corps, with which most of my campaigning was done, received eight of these weapons before the battle of Liao-yang, and they formed one battery, which was attached to one or other of the regiments comprising the 1st Infantry Division. They were ordinary Maxims; each gun had a steel shield, on the inside of which were columns of figures showing the number of cartridges from 1 to 700. Each gun was drawn by two horses, and the ammunition cart was similar to the two-wheeled one-horse infantry ammunition cart, but had a pintail for limbering up the gun.

The machine guns with the 1st Siberian Corps were not much used, and I was unable to note their effect, because it was almost quite dark on the night of the 4th/5th September, when I was close to them in action, and the high millet crops would have prevented observation of their fire effect even in broad daylight. So far as I could judge by the sound, they worked without a hitch.

In August there were, so I heard from a foreign military attaché at Head-Quarters, three batteries of machine guns with the army, but before the advance from Mukden to the Sha Ho began in October four batteries (32 machine guns) were divided between the three corps composing the Eastern Army. I heard them occasionally during the battle, but had no opportunity of seeing them in action then.

My impression is that the Russians do not understand how to make the best use of machine guns, as I believe they invariably used them in batteries of eight each, which followed an infantry or cavalry regiment.

I never heard of "pom-poms" being used by the Russians, but not having been with Army Head-Quarters, I cannot say that they were not.

(7 xxvi.) Manœuvres (Peace, Use of).

It always used to be the custom at Russian manœuvres for the fight to end by a simultaneous advance of both sides, the infantry of the defence passing through the ranks of the infantry of the attack. The idea was to instil the principle of invincibility into the mind of the soldier. In Germany, on the other hand, the force which is beaten has to retreat for some hours after this decision has been given, in order to practise the Staff in withdrawing defeated troops out of range of the enemy, and also, what is of the greatest importance likewise, to give practical lessons to the Army Service Corps in arranging for supplies and the removal of the baggage. When once an army is retreating in good order without being pursued by the enemy, one might easily imagine that, as the baggage starts first, and halts before the combatant bodies do so, troops would generally be within daily reach of their supplies and baggage. Yet in the campaign of 1904 this was the exception rather than the rule, the Train being marched frequently all night as well as nearly all day, without finding its troops. This happened even to the small baggage trains of the head-quarters of an army corps or Army, and could have been obviated by a little practice during peace manœuvres.

There are two other points which should be mentioned concerning peace manœuvres and actual warfare; steady troops, well entrenched, can stand a desperate amount of punishment, and can repel flank attacks unless these are made with overwhelming numbers. The other point is that troops should be practised in making counter-attacks; after many hours on the defensive, when the attacker must be very tired, really mobile and fresh troops may thus turn almost certain defeat into a decisive victory.

(7 xxvii.) Marches.

I have heard various opinions expressed by foreign officers concerning the marching powers of the Russian soldier. Having passed most of the campaign of 1904 with an army corps, I naturally took part in a great many marches by day or by night, or both, and find that I made no fewer than thirty-six entries in my diaries under that heading.

The conclusion to which I have come is, that the marching powers of the Russian soldier are very good indeed, excellent, in fact. Except on some rare occasions during the summer, when his great-coat or kitbag was carried in a cart, he marched during all four seasons of the year carrying a load, including the clothes he wore, but exclusive of an extra thirty to forty rounds sometimes issued before going into action, of from 56 to 58 lbs., according as to whether he wore his cloth tunic or a blouse.

In countries where good metalled roads are the rule this weight can no doubt be carried on most occasions by men of good physique, but in a region like Manchuria, where there are no roads, but only tracks, which soon become quagmires from the rain, the load is too great. The men arrived eventually at their destinations, but even in fine weather the order maintained in battalions on the march was not good, and the columns lengthened out to as much as one-third, sometimes, of their proper length. When we remember that a column might properly be, say, 15 miles in length, it is manifest that if this be extended to 20 miles some of the troops must be much longer on the road than should be the case, and this leads to exhaustion. I observed many instances in which columns could easily have avoided straggling if the company officers had paid more attention to their work.

As a general rule the marches varied from 10 to 20 miles daily, and even when the tracks were in desperately bad condition owing to rain and traffic combined, the troops to which I was attached, which were of average quality, marched the shorter of these two distances on the 27th August, when General Stakelberg, who was given to getting the utmost out of his men, told me he had not thought they could have covered more than 4 miles.

But besides mud, hills and sands, there were numerous rivers to be forded. When the mud was really bad, say a foot or more in depth, the men would take off their long boots and walk bare-footed, whereas in fording as deep a stream as it was possible to cross they would take off their trousers also. It may possibly convey some slight idea of what infantry marching meant in 1904 if I quote the following instance: From the 2nd July to the 8th August, inclusive, there had been some rain on five occasions only, and on the latter date I marched, mounted,

20 miles in exactly 7 hours, but the first 7 miles took me 3 hours and 50 minutes. My light two-wheeled cart, which only had a load of 3 cwt., required 12 hours to cover 10 miles, although it was drawn by a good big horse and a mule accustomed to heavy Chinese farm vehicles. I was marching by myself and not with troops, along one of the principal roads.

Some of the marches were of course extremely harassing. On the 16th June, the day after the defeat at Te-li-ssu, the 1st Siberian Corps continued its retreat from Wan-chia-ling, which it left at 4 p.m., and reached Hsiung-yueh-cheng, a distance of 20 miles, between 1 a.m. and 3 a.m. on the 17th June, in terrific rain. The men were hungry; they had had no shelter, and were worn out. The corps was to have continued its retreat to Kai-ping on the 17th June, but neither the troops nor the transport were physically able to do so until 7.15 p.m. on that date, when the flank advanced guard* moved off, and so had another night march through tremendous mud. One man, I was informed, fell into a hole full of mud, and over 4 feet deep, which had been made by traffic, and was suffocated before he could be extricated.

The following translation of the 1st Siberian Army Corps orders for a march may be of some interest, as it is typical of these orders. It will be observed that the batteries are assumed to have their full number of guns, although nine of these had fallen into the enemy's hands at Te-li-ssu. The "Frontier Guard" battery of four old mountain guns was also lost at that battle, and is not mentioned in these orders:—

ARMY CORPS ORDERS.

1st Siberian Army Corps.

Hsiung-yueh-cheng,

Two-verst Map (二百里),

June 4/17, 1904.

No. 196.

The enemy is advancing from Wan-chia-ling in the south, and from Hsiu-yen in the east. His advanced troops were seen yesterday at the villages Wan-chia-tun and Man-chia-pu-tzu.

The 4th Siberian Corps is watching the coast from Yin-kou as far as Cape Torquerville (Huang-chia-tun) and the passes towards Hsiu-yen.

The main body of the corps under my command is to march to Kai-ping, and the remainder is to locate the direction of the movement of the southern group of the Japanese army.

(1) ADVANCED DETACHMENT:—

Major-General Samsonov.

2nd Brigade 35th Infantry Division	-	-	8 battalions.
2nd Division 35th Artillery Brigade	-	-	24 guns.
Primorsk Dragoon Regiment	-	-	6 squadrons.
5th Siberian Cossack Regiment	-	-	6 sotnias.
4th	-	-	2
42nd and 48th Sotnias "Frontier Guards"	-	-	2
The Mounted Scouts 13th East Siberian Rifles	-	-	1 detachment.
3rd Trans-Baikal Cossack H.A. Battery	-	-	6 guns.

Total - { 8 battalions, 24 field guns, 16 squadrons, 6 H.A. guns,
and 1 Detachment.

* The tendency in the Russian army is to multiply the number of protective detachments.

To occupy the village of Huang-chia-tun (4 miles south of Hsiung-yueh-cheng), and the cavalry then to move towards the south in order to reconnoitre the enemy along the line from the coast as far as the valley of the Pa-li River, and along the valley of this river towards the north, maintaining communication with General Mishchenko's cavalry.

In the event of the enemy advancing in superior numbers, to retire fighting on Kai-ping.

(2) FLANK ADVANCED GUARD:—

Major-General Maksimovich.

One infantry regiment with its mounted scouts and a battery to be detailed by the officer commanding the 1st East Siberian Rifle Division	-	-	-	3 battalions and 8 field guns.
4th Sotnia of the 4th Siberian Cossack Regiment	-	-	-	½ sotnia.
Total	-	-	-	3 battalions, ½ sotnia, 8 field guns.

To march to-day to the village of Tung-chia-tun to observe towards the north-east, east, and south-east, and to remain there until further orders.

In the event of the enemy advancing from the east, to hold him in check until the main body of the corps has passed to the north of the line Shan-tai-tzu—Ma-tsu-wan-chai and then to retreat to Kai-ping.

(3) MAIN BODY:—

Under my command.

(A) *Right column:*—

Major-General Kondratovich.

9th East Siberian Rifle Division	-	-	-	12 battalions.
9th Tobolsk Regiment	-	-	-	4 „
9th East Siberian Artillery Brigade	-	-	-	32 guns.
4th Sotnia of the 5th Siberian Cossack Regiment	-	-	-	1 sotnia.
3rd Sotnia of the 4th Siberian Cossack Regiment	-	-	-	½ „
1st East Siberian Engineer Battalion Head-Quarters, and 1½ companies	-	-	-	1½ companies.
Total	-	-	-	{ 16 battalions, 32 field guns, 1½ sotnias, and 1½ companies.

To march at 2 p.m. to-morrow from the bivouac at Hsiung-yueh-cheng, and to follow the great Mandarin road for two marches; the first to Lao-shou-tzu-chi, and the second to Kai-ping.

(B) *Left column:*—

Major-General Gerngross.

1st East Siberian Rifle Division	-	-	-	9 battalions.
1st East Siberian Artillery Brigade	-	-	-	24 guns.
5th Sotnia of the 4th Siberian Cossack Regiment	-	-	-	1 sotnia.
2nd Trans-Baikal Cossack H.A. Battery	-	-	-	6 guns.
Sappers	-	-	-	1 company.
Total	-	-	-	9½ battalions, 1 sotnia, 24 field and 6 H.A. guns.

To march at 2 p.m. to-morrow from the bivouac at Hsiung-yueh-cheng *via* the villages Mo-chia-tun, Pa-chia-tzu, Huang-cheng, Hsiao-ho-tzu, Ha-chia-tun, and an unnamed village to the west of Ho-shan-tun and Kai-ping, in two stages, the first to Mo-chia-tun, and the second to Kai-ping.

(4) On arrival at Kai-ping the troops will occupy cantonments and bivouacs as follows:—The right column in the region Ming-chia-lao-mo—

Chin-chia-tun—Chang-chia-wa-fang as far as the railway; the left column the railway line from the Nan-ta River to Huang-chia-ta-chuang in an easterly direction from this village as far as the Mandarin road, and along this road as far as the Nan-sha River.

(5) Orders will be issued later concerning the date on which the columns are to commence the second stage, as well as regarding the "long halt." The first stage is to be marched without a "long halt."

(6) The officers commanding the columns will send out advanced and rear guards during the movement on Kai-ping of such strength as they consider necessary.

(7)—(a) The second line transport will march at 4 a.m. to-morrow along the routes of their respective columns, the commanders of which will detail escorts for it. The two-wheeled carts belonging to officers may march with the first line transport.

(b) The officers commanding columns will detail such a number of companies of infantry as they may consider necessary to assist each second line transport column, and also the first line transport.

(c) The Head-Quarter Staff first line transport will march at the head of the right column; the Head-Quarter Staff second line transport will march with the second line transport of the right column.

(8) During the march reports are to be sent to the right column; when the first stage has been marched, they will be sent to the village of Lao-shou-tzu-chi, and after the second one to the railway station at Kai-ping.

(9) The 2nd Artillery Flying Park Brigade is to move to the village of Hsiao Yueh-chi. The escort is to be one company from the 9th East Siberian Rifle Division, together with six infantry mounted scouts.

(10) On arrival at halting places for the night the officer commanding the 1st E.S. Engineer Battalion will immediately arrange for telegraphic communication with Liao-yang, and with the advanced detachment, for which purpose the latter is to be provided with one set of instruments.

(11) The next in command are Major-General Gerngross; Major-General Kondratovich.

(Signed) Lieut.-General Baron Stakelberg.

The 2nd Brigade of the 35th Infantry Division, which was with the advanced detachment nearest to the enemy, was much exhausted by its work on the 18th and 19th June and was only able to complete on the morning of the 20th June the march to Kai-ping, which it should have made on the previous day. In spite of its fatigue, however, it was ordered to move off in the forenoon of the 20th June from Kai-ping to a point not far south of Ta-shih-chiao, another march of about 20 miles. The men were overladen, and it is remarkable that they covered anything like this distance.

So far as my memory serves me it was about the year 1896 that the Russian regulations concerning marches were altered by increasing the rate of speed of infantry. On ceremonial parades the bands play accordingly, but when actually on the march, even on good roads, I never saw a regiment marching faster than about 2½ miles an hour, and generally slower, the bands playing proportionately. The regulation quick step is too rapid for the Russian soldier; if an officer calls him he walks, and never runs. But the troops get over the ground; on the 26th June I saw the 5th East Siberian Rifle Division arrive at Ta-shih-chiao from near Hai-cheng, a distance of about 18 miles, in one march, and the men, who were fully equipped, looked well, although the day was very hot and the road very sandy.

By the 22nd July, however, the heat and the weight of kit had told upon the troops, and their marching powers fell off in consequence, which was bound to be the case. As an instance of this it may be mentioned that, a few days previously, a brigade was suddenly ordered to march at 3 a.m. to go to the assistance of General Mishchenko, but the battalions did not move off until 4.55 a.m., when they covered 5 miles in two hours. General Kuropatkin recognized the bad effect of the heat and overloading on the troops, and issued instructions that, as long as the weather remained so hot and close, marches were to be avoided, if possible, between the hours of 11 a.m. and 4 p.m. The 1st Battalion of the 11th Regiment of the 3rd Division of the XVIIth Army Corps arrived at Yen-tai, 16 miles north of Liao-yang, in the evening of the 22nd July, after a railway journey of several weeks. The battalion was then detrained and marched to Liao-yang, where its head arrived at 6 a.m., and the tail at 11.20 a.m. on the 23rd July. Many of the men were reservists from town employ, but it was a high trial for any troops. Of course when the roads were really bad it was not possible for infantry battalions to keep any order at all on the march.

During the second and last day's retreat of the 1st Siberian Corps from An-shan-tien to the Liao-yang position, on the 28th August, the roads were in such a state owing to mud that the eight guns of one battery of the 1st East Siberian Rifle Division had to be abandoned; in one instance sixteen horses were attached to an empty limber, and failed to move it; large numbers of ammunition wagons were also abandoned. I heard some of the officers concerned rated soundly, but I am not prepared to say that it was possible to have saved what was lost. At the same time the fact remains that the Japanese, after the retreat of the 1st and 4th Siberian Corps from An-shan-tien had made the tracks even worse than they had been, managed somehow to get their guns, and plenty of artillery ammunition, over these same tracks, and very close on the Russian heels, too, for they made a general attack within less than thirty-six hours after we reached the Liao-yang position, and had already been feeling their way a few hours only after we got to it.

When the 1st Siberian Corps retreated to the right bank of the Tai-tzu Ho at Liao-yang by a night march, after thirty-six hours desperate fighting, with very little to eat during that time, the men looked well, but they must have been very tired. The retreat of that corps to Mukden lasted three days, the distance being 37 miles. There were flank and rear guard actions during the whole of the 5th September, the first day of the retreat, but on the 6th September and on the following day, when the corps reached Mukden, it was no longer pursued. The field kitchens were especially serviceable during this retreat; meat rations were issued on the 6th September, as the troops had live stock with them, and the food was cooked on the march.

I only observed one instance, during all the operations in which I was engaged in 1904, of a mounted man lolling in his saddle.

On the 7th September the transport of the 1st Siberian Corps began to cross the trestle bridge over the Hun Ho at Mukden at 12.50 p.m. This bridge had been placed at General Stakelberg's disposal from 12.45 p.m., but some belated generals attempted to get their last troops and impedimenta across the river. But Stakelberg was firm, and told them that they could use the neighbouring ford, which was barely passable for wheeled traffic. He took up his position at the entrance to the bridge, which is 450 yards long and 10 feet wide, and I remained with him there until the last man entered the bridge, at 5.55 p.m., the time taken by the whole body of 18,000 combatants and non-combatants, with 84 guns and Maxims, being, therefore, 5 hours and 5 minutes. Nobody was allowed to cross mounted; five paces interval were kept between carts, and twenty-four paces between guns; each infantry brigade crossing the bridge was followed by such transport as it had with it.

When the 1st Siberian Corps had had three clear days' rest at Mukden after the retreat from Liao-yang, it marched about ten miles to a new position east of the former city, and there were a great many stragglers, some of the men not having recovered from their exertions of the previous fortnight. Matters then remained quiet for three and a half weeks, until the 5th October, but the troops were constantly employed during this period in constructing field works on the right bank of the Hun Ho. On the 5th October General Kuropatkin advanced to the south to assume the offensive, and the Eastern Army, to which I was then attached, marched towards Pien-niu-lu-pu, a village about 37 miles south-east of Mukden, and was assembled in its neighbourhood on the 10th October, so that the stages were short ones, but the country was hilly, being the western spurs of the mountains. The first day of the battle on the Sha Ho was the 11th October, and the Eastern Army began its retreat on the evening of the 13th, but this movement was countermanded on the following day, and the head-quarters remained at Kang-ta-jen-shan, about three miles north-west of Pien-niu-lu-pu until matters became quiet on both sides, in December.

The endurance of the Russian soldier in marching is remarkable, but better order could be kept. Neglect of this on the part of the officers caused the men to suffer needless fatigue, and upset calculations concerning movements.

(7 xxviii.) Men.

The soldiers of the Russian army in Manchuria have been mentioned in various chapters of this report, but some general remarks about them may not be out of place.

Their ages, of course, varied, owing to the large numbers of reservists of different categories who were required for mobilization, or were incorporated to make good losses caused by battle or sickness.

The general physique, however, was very good, but this is not to be wondered at when only about one-third of the young men who have attained the military age are required annually for colour service in normal times.

After a series of defeats and retreats the spirits of the men naturally fell a good deal, but the wonder is that actual disorganization did not set in. Probably the ignorant stolidity of the troops saved them from this. When I saw the Russians under hot fire they were very steady, but one cannot expect a conscripted army even of patient Russians to be entirely composed of heroes, although I frequently heard senior Russian officers criticize corps for not dying at their post sooner than retreat. I never heard them, however, blame their own particular troops for giving way.

The discipline of the men was excellent. There is no more enduring, patient being, I believe, than the Russian soldier. He does not grumble or criticize, and bears all the hardships, many of them unnecessary ones, which are incidental to a campaign, with great fortitude. He was severely tested in 1904.

The average Russian is a hard drinker, but I am sure that I did not see fifty cases of drunkenness during the campaign. Liquor was, it is true, frequently unobtainable, and the sale of spirits, without a written pass, was also forbidden in the towns and refreshment rooms, but this order was not strictly observed after the first few months of the war.

During the retreat from Te-li-ssu on the night of the 15th/16th June, one column of the 1st Siberian Corps was mistaken in the darkness for Japanese, who were nowhere near, and a few desultory rifle shots were fired, order, however, being quickly restored. Such incidents may occur to any troops. This corps is a fair sample to take as regards the quality of the men; the operations around An-shan-tien in August, the retreat thence to Liao-yang, the desperate battle round that city, and the subsequent retreat to Mukden, extended over a period of just two weeks, during which time the Japanese gave the corps no rest day or night, until within a march or so of Mukden. It had suffered very severely at Te-li-ssu, but held its ground splendidly on the 30th and 31st August at Liao-yang. Owing to the configuration of the ground on those days, General

Stakelberg, its commander, was nearly all the time in the fighting line, which enabled me to see a great deal of what occurred. Companies were frequently commanded by non-commissioned officers, but did not yield to the fierce Japanese attacks.

The only panic on a large scale which I know of happened to a division of the 5th Siberian Corps at Liao-yang on the 2nd September, but this was entirely the fault of Major-General Orlov, who commanded it. When the Russian army advanced from Mukden in October, to try and gain one victory at least before winter should set in, the men of the Eastern Army, which I accompanied, must have felt the hopelessness of their task when they saw the passes they had to attack. The 1st Siberian Corps, which belonged to it, had previously lost in killed, wounded, and missing, about 50 per cent. of its effective strength, but it did attack, and so did the 3rd Siberian Corps; the 2nd Siberian Corps was in reserve at first. The losses again ran into many thousands, but the discipline of the men remained excellent.

There were, no doubt, instances of laxity of discipline among the men, such as, for example, the sentry of a relay post of despatch riders being asleep, and not a horse saddled, but a bad example set by those in authority must influence subordinates to some extent.

Excluding the Cossack, who, owing to lack of training perhaps, is of very poor stuff, the Russian soldier has many admirable military qualities, actual or potential, but he wants much better leadership. Nevertheless he is a very dangerous enemy.

(7 xxix.) Military and Martial Law.

There is very little to be said concerning military and martial law. The discipline of the troops was very good, and the Russians interfered little with the local Chinese authorities. During the first phase of the campaign of 1904 the native inhabitants were very well treated, and, indeed, much overpaid for the services they rendered to the army, even after allowing for the fact that a war necessarily raises greatly the prices of dwellings, food, forage, animals and clothing. Later on, however, the property of the Chinese was often seized in an arbitrary manner, and there was no redress, but this system reacted very prejudicially upon the Russians, as the inhabitants removed or concealed their property.

I saw some Chinese who had been captured among crops in the act of firing upon troops, but they were sent for trial before a military court instead of being shot out of hand.

The restrictions on entering or leaving large cities like Liao-yang or Mukden after sundown were very slight, and could be evaded with great ease.

Generally speaking, martial law, as exercised by the Russians, was much less harsh than might have been expected.

(7 xxx.) Mobilization.

I had no opportunity of seeing anything of the mobilization of any Russian troops, but my impression is that sufficient care was not always taken to provide for their mobility in the field until seven or eight months had elapsed after the war broke out.

The Xth and XVIIth Army Corps were the first reinforcements to be sent from European Russia. Their mobilization began, I understand, in the first days of May 1904, and two out of their eight brigades of infantry had been in the Far East for some months prior to the declaration of hostilities, which was so much to the good. Large numbers of Chinese had been hired, together with their carts and animals, for transport duties with army corps, but just about June and July, when the Xth and XVIIth Army Corps detrained in Manchuria, many of these Chinese were deserting. It was, therefore, necessary to take men from the ranks for transport work, and this of course reduced the fighting strength of the army. But the effective strength of infantry companies was so much below the establishment at a period when there had been little fighting, that, after allowing for men in hospital, my impression is that units were despatched to the theatre of war before they were properly mobilized as regards numbers.

I scarcely ever saw a company of infantry which was not considerably below its proper strength, prior to its going into action for the first time, until the VIIIth Army Corps arrived at Mukden in November 1904, from the Odessa military district. In that month there were ten army corps under General Kuropatkin. The VIIIth Corps had been the last of these to arrive; its companies were well up to their establishment, and at that time there were scarcely any more Chinese carters to be obtained.

Mobilization in European Russia is apt to be delayed, owing to the distances which reservists often have to travel in order to join their units, and the poor facilities as regards railway transport, although it would not be safe to reckon upon this always happening.

(7 xxxi.) Newspapers and Periodicals.

News from the outer world was exceedingly scarce for some weeks after the outbreak of war. There were two papers published several times weekly when I reached Army Headquarters in April 1904, namely, the "Harbin Messenger," printed at Harbin, and the "Novy Krai" at Port Arthur. The former is an official journal, and so is the "Messenger of the Manchurian Army," which was founded in May 1904.

This last-named journal was intended, so it was said, to give all foreign telegraphic news of general interest, and accounts of military operations in addition. It is the most important Russian newspaper published in Manchuria, and circulates freely among the troops. I seldom saw any journal except the one in question; it seemed to reproduce accurately enough some of Reuter's and other telegrams from Europe. The tenor of its military intelligence may be gauged by the fact that, after the decisive defeat inflicted on the Russians on the 15th June when attempting to relieve Port Arthur, the editorial comment was as follows: "The result of the actions at Te-li-ssu on the 14th and 15th June was to improve our strategical position."

The principal journals in European Russia were well represented as regards the number of correspondents, some of whom were officers. They seemed to be very confident of the success of the Russian arms, and I heard one of them state, after the battle of the Ya-lu, that "there are no difficulties for Russians." Several officers serving with the army also acted as press correspondents. One of them told me he received five pence a line for doing so. It would have been better if he had paid more attention to his legitimate work, which he neglected more than once.

The official Harbin journal resembled its contemporary, the "Messenger of the Manchurian Army," in the accuracy of its statements concerning the battles which were fought. In the third week of October it complained that Japan, having been defeated on the Sha Ho, was seeking revenge by capturing the trade of northern Manchuria!

It was not to be expected that Russian journals, which are pretty widely read by the troops or to them, should paint events in black colours, but there are limits which it is foolish to exceed; seeing that as the whole army had been beaten, it must have been perfectly well aware of the fact.

(7 xxxii.) Non-Commissioned Officers.

The method by which men are selected for the rank of non-commissioned officer is set forth in works on the Russian Army. Lance-corporals do not hold the same position as in our service, and are not regarded as being non-commissioned officers, so that the following remarks do not apply to them; there are, of course, good men and bad men among them, and they correspond to the senior soldiers in British parties where there happen to be no non-commissioned officers.

The Russian sergeants-major and sergeants are good in many respects, and in action, which is the ultimate test of military training, many of them commanded batteries or companies with the utmost credit, when all their officers had been killed or wounded. Interior economy is their weak point, but this could scarcely be otherwise, seeing that the commissioned officers are so careless in this respect. Many of the Russian non-commissioned officers would, I believe, make fine regimental officers of the stamp of those who served under the great Napoleon, but I do not know of any instance where one of these of the average type was promoted for exceptionally good work in the field.

There were, of course, cases of neglect of duty, but one can scarcely blame non-commissioned officers for imitating sometimes the example set them by their superiors. The Russian non-commissioned officers suffer, in fact, like the men, from being badly commanded.

(7 xxxiii.) Officers.

The peace establishment of the Russian Army considerably exceeds a million of men, and to officer such a force efficiently throughout would, I take it, be impossible in any country. But a great struggle, such as the present one, requires the employment of a large number of reserve officers, and it might naturally be expected that these would, for some time, be less efficient than their comrades on the active list. Yet there was little, if anything, as a matter of fact, to choose between them.

Before there had been much fighting some of the regiments formed from reserve troops reached Liao-yang without their full complement of officers, and later on it was found necessary to call out all the reserve officers of the Empire.

When there was a lull in active operations leave was frequently given to officers of all ranks to come into Army Headquarters, or to go to Harbin for a time, but some of them, Guard officers it need scarcely be said, were more favoured than others in this respect.

Russian officers from and including the rank of lieutenant-colonel upwards (there are no majors in the Russian Army) are authorized to take a private carriage on the march, in order to transport their baggage. It was not an uncommon spectacle to see officers of infantry regiments driving while their men were marching heavily equipped, especially in really hot weather.

Immediately after the first important battle, that of Te-li-ssu, regimental officers began to abuse the higher leadership, and this practice spread before long to the different staffs of the army, each of which was generally ready to criticize unfavourably the tactics of the others. The fact was that none of them, so far as I know, took to heart the lesson taught them by the Japanese at Te-li-ssu, and I noted in my diary, four days after the retreat from that place, that the Russian officers evidently did not appreciate the gravity of the situation. Nor did they seem to do so after Liao-yang. Many of them were, no doubt, heartily tired of the war, but they had, I believe, no doubt about Russia's ultimate victory without any special effort on their part.

Promotion is very slow in time of peace in the Russian Army, except in the highly favoured Guard Corps, where captains become full colonels. Among troops of the line the stagnation is very great, and when the command of a regiment in a fair station becomes vacant, it is often filled by a guardsman who has "protections," but little money. The proportion of Guard officers who receive general officers' commands in the army is out of all proportion to their numbers, and as, in addition, each regiment of the Guard Corps is commanded, not

by a colonel, but by a major-general, it will be seen what a poor chance the line officer stands.

Even during the campaign of 1904 it frequently occurred for junior Guard officers to be given the command of regiments where there were others fully as well qualified for the post, to say the least. When I left St. Petersburg for the seat of war in March 1904, I saw a friend of mine, who had never done a day's regimental duty except for a short time as a youngster on first joining. When I saw him again, ten months later, he had risen from subaltern to full colonel, and will be a major-general at the age of 40 or so. Nor is this instance by any means a singular one. He explained to me how the thing was done; certain favoured regiments of the Guards have a large number of officers in excess of the establishment, and when war broke out many Guard officers went to Manchuria. Some of them were given the command of regiments at once, some were placed on the staff, and the others were promoted in their new sphere. All were struck off the strength of their former corps, the officers of which, in their turn, were promoted for their service at home. When the Guard officers quit Manchuria they will rejoin their old regiments in their new ranks, or go on unlimited leave, except those who may be promoted in the meantime to major-general. With such a system one cannot expect efficiency among officers.

There is no doubt that not only the Russian officers generally, but also General Kuropatkin as well, continued to underrate the quality of their enemy as late as October 1904, the Commander-in-Chief being impregnated with a blind faith in the powers of his men.

There was a lull in the operations on the south front of the Russian Army shortly after the Japanese victory at Te-li-ssu in June, and the number of officers who went to Liao-yang and loafed there increased rapidly, to such an extent that Kuropatkin felt obliged to issue an Army Order on the subject, but scarcely any attention was paid to it. The discipline among the numerous officers who have friends in high places is very slack; they are brave enough in battle, but personal courage requires nowadays to be supplemented by other qualities if victories are to be won.

A few officers went mad during the battle of Liao-yang; the situation was extremely critical for some time, and I daresay the heat and sunstroke were the causes of these unfortunate accidents.

Various disciplinary orders were issued from time to time, but scant attention was paid to them. As late as the month of December 1904, the General Officer Commanding the Lines of Communication at the great base, Harbin, found it necessary to publish the following regulations:—

“It has been noticed that a great number of the rank and file belonging both to the weak detachments at Harbin, and also to the dépôt battalions, and other units are in the habit of

collecting at the new passenger station at Harbin. These men crowd there for no reason at all; they hire themselves as porters to carry luggage for passengers, and sometimes carry it off altogether. It is impossible to know whether these unsought-for volunteer porters are honest, and they even remain all night at the stations, thus increasing the extreme crowding which already prevails there.

"This means that the absence of these men (and there are hundreds of them) is not noticed in their respective units, whence it follows that discipline is not maintained in these units.

"I warn commanding officers of all ranks that, in time of war, discipline must be maintained in the exact spirit of the regulations without the very slightest relaxation, and I will deal severely with commanding officers who permit their men to hang about the railway station without good reason.

"Men are never to be allowed to leave barracks without a proper pass, and this rule applies also to all clerks.

"The railway commandant and railway gendarmes at Harbin passenger station are to arrest all soldiers of the garrison who have not got proper passes, and are to send them under escort, about twice daily, to the town commandant. In order to do this, the troops finding the main guard of the town are to detail a piquet of ten men to be at the disposal of the town commandant, and this piquet is to be stationed at the railway station."

(7 xxxiv.) Orders.

Orders were of two kinds, namely, written and verbal. They were not seldom issued, countermanded, and issued again, where there was no cause for this. I also noticed on several occasions that officers, both staff and regimental, were ignorant of the orders which concerned them, and with which they could easily have made themselves acquainted. Neglect or disobedience of orders was not rare, and some of the very senior officers were apt to set a bad example in these respects.

When written orders were issued in action copies were taken by means of carbon paper. A message would then be placed in an envelope on which was noted the rate of speed of the orderly, the date, and hour of despatch and receipt, just as with us. I know of no instance in which orders were sent in duplicate, still less in triplicate, and omission to do this prevented a message from the Commander-in-Chief being delivered to the commander of his left wing during the battle of the 2nd September, at Liao-yang.

Stakelberg's corps had to make a night march on the 2nd/3rd September, after its repulse, and, before moving off, that general saw all battalion and battery commanding officers personally in order to give them their instructions.

When he was given the command of the Eastern Army, prior to the advance to the Sha Ho in October, he issued orders that, as the first marches "will not be long ones," officers commanding corps, divisions, brigades, regiments, and batteries were to take every opportunity of practising their troops in manœuvring and musketry. The intention was that the newly arrived reservists should receive some military training while there was still time. So far as I am aware, no attention whatever was paid to these orders, and one of the subordinate commanders told me he thought the instructions rather foolish than otherwise.

On the 8th October 1904, three days before the commencement of the battle of the Sha Ho, I was present when an officer of the staff of the Eastern Army had a squabble with the commandant of Head-Quarters of that Army concerning the issue of orders. The latter complained that he never received a copy of the Army Orders which related to Army Head-Quarters, nor was he told when they would be issued, so that he might send somebody to take them down. The staff officer replied that a head of department or officer in command should find out for himself when the orders had been approved by the Army commander, and then ask for their contents. This staff officer would not admit that the simplest way, which is, except during an action, generally practicable, is for commanding

officers and heads of departments to send their representatives to take down the orders in writing daily at a stated hour.

The absence of a sound system concerning the issue of orders in the Russian army sometimes caused great delay and inconvenience, and may, indeed, render a military situation very grave. On the 8th October 1904, the head-quarters of the Eastern Army had advanced to a village about thirty-two miles south-east of Mukden, called Yang-mu-lin-tzu. The orders for the advance of the Eastern Army on that day had been made out on the 7th October, in Army Order No. 6. At noon on the 8th I heard the chief of the staff of the Eastern Army tell a subordinate staff officer that no copy of that order had then been sent to Major-General Kashtalinski, who commanded the extreme left wing of the army, which might, and, not long afterwards, actually did, have its communications, as were also those of the Eastern Army generally, attacked by the enemy. The chief of the staff, of course, directed a copy of the orders in question to be sent to Kashtalinski, and to do this an officer of the Head-Quarter Staff of the Eastern Army had to give up his own copy.

Now this advance of the Eastern Army was part of the general Russian advance to try and recapture Liao-yang, and relieve Port Arthur. The issue at stake was, therefore, of extreme moment, yet the whole movement was jeopardized, before the battle commenced, by the slipshod manner in which orders were issued.

Important orders in action were frequently given verbally, perhaps to orderlies, and not to officers, and these orderlies were by no means invariably selected for their intelligence.

I like the Russian plan of stating at the commencement of orders for the movement of troops the map which is referred to in them, and the system of noting in the half margin the composition and strength of the different commands is clear and simple. But it was good luck, and not good management, which sometimes obviated disaster from overtaking the Russian arms, considering the unbusinesslike way in which orders were promulgated or obeyed.

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(7 xxxv.) Outposts.

The regulations for outposts in the Russian Army are practically the same as those laid down for the forces of other countries. Speaking generally, as regards the campaign of 1904, it may be said that outposts were placed when the enemy's advanced troops were within 20 miles or so of the main body of a Russian force. When the Japanese were further away, it was the custom to place only piquets and outlying sentries, in addition, of course, to any advanced force of cavalry. In the first half of May 1904, for example, the cavalry of the 1st Siberian Corps had detachments 50 or 60 miles to the south of it.

Sentries were usually placed in pairs, each couple keeping close together. There were, however, occasions in the eastern and hilly portion of the theatre of war when the Japanese were able to evade piquets and sentries and surprise a camp. These were raids on a small scale, however, and do not appear to have seriously influenced the general military situation.

As an example of the strength of outposts in 1904, may be mentioned those of the 1st Siberian Corps, in August. This corps was then at An-shan-tien, about 20 miles north of Hai-cheng on the railway line to Port Arthur, Hai-cheng being occupied by the Japanese. The 1st Siberian Corps consisted of 24 battalions and 64 field guns, and the outposts were composed of 6 battalions and 16 field guns, that is to say, one quarter of the total strength. An exceedingly strong entrenched position had been prepared for these outposts, which bivouacked in rear of it. When the Japanese advance on Liao-yang commenced a fortnight later, the duty of the outposts then was to act merely as a rear guard, and their positions were evacuated without much resistance.

Kuropatkin was responsible for the general situation of the outposts of his army. The broad river at An-shan-tien rises with extreme rapidity in wet weather, and ran between the main bodies of the 1st and 4th Siberian Corps and their respective outposts. There was one reliable bridge, namely, that across the railway, but no road bridge along the main route leading to these outposts. The weather had been showery on the 13th August, very wet all day on the 14th and 15th, showery on the 16th, and during the afternoon of the 17th there was a violent downpour which lasted for four hours. Communication across the river had been extremely difficult for a couple of days while the stream was in flood, and if the outposts had been attacked in force I doubt whether they could have got away or have been sufficiently reinforced. If, as was anticipated when the position of the outposts was originally

chosen, the weather had been as wet as usual during the rainy season, the situation would have been still more awkward, but 1904 was a phenomenal year as regards the small quantity of rain.

The Japanese used to give plenty of warning before making an attack in force, but the Russians offered a good many opportunities which bold and well-mounted troops could have utilized with very great advantage during the campaign.

(7 xxxvi.) Pay and Wages.

The pay of the rank and file of the Russian army in Manchuria was fixed at 45 kopeks (one shilling) monthly, so the Chief of the Intendence Department informed me. This was intended to enable the men to purchase tobacco of the common kind, which is to be procured exceedingly cheaply almost anywhere in Manchuria.

I cannot say whether the troops generally throughout the army received this allowance, which is modest even for conscripted soldiers, but, after making frequent inquiries on the subject from men themselves, I came to the conclusion that, if it were paid, the money was issued very irregularly.

The Chinese are willing to serve anybody for money, provided they are sure that the bargain struck will be carried out. In May 1904 large numbers of them were employed at Liao-yang in constructing field works under the supervision of engineer officers, and the daily rate of wages was fixed at 50 kopeks (13 pence). This was, at the time, an extraordinarily large sum, being four or five times as much as could be earned under normal conditions. Trouble, however, soon arose; the Russian authorities declared that the labourers were striking because their Chinese foremen of gangs received the wages of each party, and retained most of them. A settlement, however, had to be come to, because it was imperative that the works should be constructed, and as the labourers insisted on being paid personally every day, this was perforce agreed to.

The intention of Kuropatkin was undoubtedly that the Chinese should be well treated, and this was the case in some instances during the earlier phase of the war, at Liao-yang and Mukden, where rents were paid to native landlords out of all proportion to the value received, even after allowing for the "squeeze." Later on, however, property and labour were simply commandeered when procurable.

(7 xxxvii.) Postal Service.

One mail train used to run every day with scarcely an exception, both ways, between Russia and Army Head-Quarters, and correspondence arrived there with considerable regularity.

The system by which this was distributed to the army was as follows: A field post office was organized for every army corps, or other independent force, at the nearest railway station, either in a building, if one were available, or else in one, two, or three goods wagons fitted for postal and telegraph work, and the correspondence addressed to a corps was despatched from the Army Head-Quarters office to the field post office concerned. If a tactical unit happened to be near its field post office, the regiments composing it sent in to fetch their letters and newspapers. If, however, a body of troops was a considerable distance from the railway, "flying post offices" were instituted by the postal authorities in order to communicate between the nearest field post office and the troops in question, the correspondence being delivered by these "flying post offices" at the head-quarters of the latter.

The postal service away from Army Head-Quarters was not very efficient, judging by the numerous complaints which I heard uttered on the subject by Russian officers. Yet the mails were light, partly owing to the low standard of education among the troops and their relatives, and partly because the practice of letter writing was not encouraged in those soldiers who attempted it. Their correspondence was usually dealt with very summarily, I believe, by being destroyed. Some of the relatively small surplus which remained to be handled was frequently sent in the wrong direction, even when very legibly addressed, and I knew several Russian officers who had received no letters from home for several months at a time. This was simply owing to the carelessness of the postal clerks, or to the disorder which often reigned in their offices, and was well worth seeing.

(7 xxxviii.) Railways.

As regards the Siberian and Chinese Eastern (Manchurian) railways there is no need to multiply description. There is one point, however, which may be mentioned, namely the weight of the rails, which appeared to me to be of precisely the same pattern as those laid in 1894, when I first saw some of the line then under construction. For heavy but slow traffic such light rails appear to be quite suitable.

Taking the railway as a whole from Chelyabinsk, which is the western terminus of the Siberian portion, to Mukden, a distance of close upon 4,000 miles, it has worked better than I expected, but the one great fault connected with it has been, and is, the incapacity of Russian railwaymen, civil or military, to handle heavy station traffic properly. If Russia were to pay a British or American goods-yard foreman, say from Nine Elms Station, a salary, no matter how high, and let him import his own staff of assistants, the improvement in the working of the Asiatic lines in question would be remarkable. As matters stand more trains are started now from a big station like "Manchuria" than was the case in April 1904, but, on the other hand, the speed is slower than formerly.

In order to estimate the practical carrying power of the railway, one must take a long section, say from Misovaya, on the east coast of Lake Baikal, to Harbin, 1,341 miles. The sidings are nearly seven miles apart. With the exception of one light mail train, and about one ambulance train daily, all the trains are military ones for troops, supplies, stores, or remounts. In April 1904 only three or four such trains were running from west to east every day, west of Harbin, as troops were then being brought from Vladivostok to Liao-yang. It is to be noted that the distance *via* the circum-Baikal railway from Irkutsk to Misovaya on the eastern shore of the lake, is 204 miles, whereas by crossing the lake it is 91 miles, and the former journey takes about a day and a half longer at least than the latter. Ambulance and freight trains are sent round the lake and troops across it.

I left Tankhoi, on the east shore of Lake Baikal, at 9 p.m. on the 2nd April, and reached Harbin at 9.30 a.m. on the 8th April—132½ hours, in a freight train. This was at the rate of 11.25 miles an hour. In December last the mail, which is faster than a freight or troop train, took 181 hours to go from Harbin to Misovaya, a rather shorter journey, which was at the rate of less than 7.5 miles an hour. The traffic superintendent at Misovaya admitted to me that the speed is slower all round now than was the case in the spring. To give another instance: a Grand Ducal ambulance train left Harbin on the 5th December, and reached Irkutsk, *via* the circum-Baikal

railway, on the 17th December. This train, therefore, only travelled at the rate of about 5·5 miles an hour. Now let us take some shorter distances. I travelled in the mail in December from Mukden to Harbin, 337 miles in 51 hours, that is to say, at the rate of 6·6 miles per hour, and a freight train in April took the same time. In December the mail took 79 hours to go from Harbin to "Manchuria" (594 miles), whereas in April a freight train covered the same distance in less than 58 hours. In December the mail went from Chita to Verkhne-Udinsk, 350 miles, in 43½ hours, which was at the rate of 8 miles an hour. The same train took 40 hours to go from Manchuria station to Chita, whereas a freight train in April only took 24 hours to cover the same distance. In April also there were blocks on the railway, a freight train taking 35 hours from the time of departure from Harbin to the time of departure from the small station Kotiabien, 204 miles, which was at the rate of less than 6 miles an hour. From Irkutsk to Mukden in April was 8 days 16 hours, or 9 miles an hour. In December a faster train, the mail, took 12 days 16 hours for the same journey, or 6 miles an hour. In April and May a troop train required 50 days to go from Wirballen to Liao-yang, or 5·25 miles an hour, the time-table allowing 32 days, or 8·2 miles an hour, an important fact.

On the 10th December I had passed 28 trains in the preceding 24 hours, which would mean that 14 might have started in that time, but as my train, the mail, was faster than the others, it is evident that less than 14 trains had started in that period. We may, therefore, I think, safely assume that the average speed, including stops, for a long section of the line is under 7 miles an hour. As the sidings are between six and seven miles apart, this speed allows of 12 trains running from each end daily, and I will suppose this to be the case, although I am very much inclined to believe than an average of 9 or 10 pairs of trains in every 24 hours for a period of, say, three months would be nearer the mark.

From the 11th July to the 10th October General Kuropatkin had received 112 battalions, 424 field guns, and some cavalry, besides men to make good losses. As the wagons were much more closely packed then than when the weather is cold, and the cars heated by a stove, we may say that about 400 trains were required for the above purposes, or between 4 and 5 troop trains daily. To these must be added the mail, an ambulance train, and a train for supplies, one for stores, and one for remounts, on the average. This gives a total of between 9 and 10 trains daily, and any other trains which might have been run would have so much to the good for stores or supplies. As many as 13 or even 14 trains have, no doubt, been started at times in a period of 24 hours, but this must have been discounted by a congestion of traffic later. For example, when reservists were urgently wanted at Mukden in September after the retreat from Liao-yang, so many trains were despatched that the

337 miles from Harbin took seven days, or less than 50 miles in 24 hours, as a staff officer told me, adding that this prevented warm clothing arriving from Harbin. In December the traffic was congested east of Lake Baikal, and my observation of this fact was confirmed later, when between Irkutsk and Moscow, where the eastward bound traffic was comparatively light, thus showing that the railway authorities were endeavouring to reinstitute order east of the lake. On the 5th December Harbin junction was blocked for over twelve hours in all directions, trains not being able to get either in or out.

There is also another point to be considered, namely, the bringing back of empty trains from east to west. Those empty trains which I saw were no larger in December than in the preceding April. If they were not returned, the largest station would become hopelessly blocked before long, if one considers the superficial area of one of even the smaller goods wagons. Were it, however, feasible to get over the railway difficulty by the non-return of most of the empties, there would not be sufficient rolling stock in Russia for the military accommodation necessary, and I saw in December, between Irkutsk and Moscow, how some of the districts were suffering from inability to despatch their grain owing to want of wagons. I have, it is true, heard that empty wagons have been burnt on reaching their destinations in the Far East, but I have no evidence in support of this statement.

Manchuria had been swept bare in the south, and there was difficulty in December about getting down the grain supplies from the north and north-east, the Chinese carters fearing they would not be allowed to return to their homes after a journey to the south, so that the winter increased the difficulty of supply, unless the natives were reassured. Nor can the farmers, whose land is in the theatre of operations, get back in the spring, so far as one can foresee, to sow, and if they could I do not know whence they could obtain the grain for this purpose. The war has ruined thousands of them, and all these factors react upon the railway. Mongolia, however, seems to have supplied plenty of cattle and ponies, and this relieved the line greatly. After the two brigades of rifles and the XVIth Army Corps reached the army, I imagine that the number of trains for supplies and stores had to be augmented, with a corresponding decrease in the number of troops carried within a given period. It must, however, always be remembered that the Russian soldier is a very hardy fellow. Not having been with Army Head-Quarters, but with a force at the front, I had no chance of getting much information on the general state of health of the army; but my impression is that this war, which has been so prolific in surprises, has shown that the number of casualties due to death or wounds in action has been greater than the losses due to disease.

The wastage which every army must suffer from the above causes may properly be considered here, as on its amount

depended whether Russia was able to increase her effective fighting force by means of the railway or not, after the terrific battle on the Sha Ho in October 1904. In my estimate of the wastage I have only considered the field troops actually with Kuropatkin's army on the Sha Ho, and have left out of account the Vladivostok and Ussuri garrisons, the fortress and dépôt troops, and those engaged on the lines of communication, which last were not numerous. By considering only the field army of Kuropatkin, the wastage is higher than it would be if the other troops were reckoned, as these have suffered less, their risks and exposure not being so great. After allowing for men who recover from wounds or sickness, I estimate that the percentage of wastage in Kuropatkin's field army did not exceed 50 per cent. per annum.* If this be approximately the case, then Russia can, so far as the railway is concerned, maintain in the field a force of about 400,000 combatants, as long as she holds Harbin, if nine or ten trains on the average run eastwards in every 24 hours, and if she can continue to draw, as before, supplies from Manchuria and Mongolia. If Japan, however, should follow up her victories rapidly, then Russia would not have time to make good the enormous losses of a great battle, nor could she draw much upon those regions for food, and 200,000 combatants might well be the limit of her army east of Lake Baikal.

For short journeys of a few hours I have seen as many as 60 men put in a wagon instead of the regulation number of 40, when one train, drawn by one powerful engine—say a Baldwin compound—will take three battalions of infantry or one battery (eight guns).

All wagons in Russia have screw couplings, and those for men are lined with fir or deal boards in winter on account of the cold, besides having a stove in each, so that they cannot then carry anything like 40 men.

The railway troops are very good in laying or taking up sidings and in railway work generally, except in handling station traffic. I do not see how the speed of travel is to be increased, because the traffic from Manchuria Station to Harbin (59½ miles) is not worked by the train-staff system, as on the Siberian railway, but by the telegraph, which is the quickest method, and there is no object in running more trains from, say, Moscow to Manchuria Station if they cannot be despatched thence to the south.

I heard one of General Stakelberg's orderly officers, who had just returned to An-shan-tien from Harbin on the 19th August, tell the general that from nine to ten military trains were arriving at Mukden daily, and that one division of sixteen battalions and three field batteries was detained at the latter

* This was written before the battle of Mukden commenced: the Russian losses in it augmented greatly, of course, the rate of wastage, and it will not now be possible to make them good for several months to come.—W. H. H. W.

place in four days. This statement seems to confirm my calculations, which were made independently.

The evacuation of sick and wounded from the theatre of war has also taxed the resources of the railway to a considerable extent. Hitherto they have had to be sent on to Russia, because even the largest town in Siberia—namely, Irkutsk—could not, so its Governor-General reported on the 14th November 1904, accommodate more than 2,585 invalids, while the Governor of Krasnoyarsk stated that 1,000 beds for that city was the maximum. I imagine Irkutsk must have over 70,000, and Krasnoyarsk over 30,000 inhabitants.

The entraining and detraining of troops was performed with regularity, so far as I saw, and, as regards the feeding of troops during a journey extending over weeks or days, cooked supplies were issued, I understand, at various places along the line. The stoppages also enabled the men to stretch their limbs, but they occurred at very uncertain hours, as the running time was seldom kept. When hostilities commenced, military time tables were issued to commandants of railway stations, but they were, in some instances, pedantic. For example, when Mukden was the terminus, in December 1904, trains were timed to start at, say, 2.33 p.m., but the hour might just as well have been made 2.30 p.m., seeing that trains were rarely despatched from the terminus within an hour or more of their advertised times. The commandants of stations were military officers, and they were assisted by the regular civil station staffs.

Much cattle, grain, and transport can be procured in Manchuria and from Mongolia, but the railway has to bring men, ammunition, clothing, equipment, rye, meal, tea, sugar, candles, oil, horses, and other things. It is interesting to note how the working of the line was interfered with, from the very commencement of the war, by those who should have been the first to see that no extraneous calls were made upon it, when the organization of the army and the strengthening of Port Arthur were of vital importance.

The chief of the Viceroy's Staff, was the intermediary between Admiral Alexeiev and General Kuropatkin, the former being at Mukden and the latter at Liao-yang, 37 miles distant. Frequent conferences took place between Kuropatkin and this officer, who always used to come in a special train to Liao-yang. This necessitated the line being kept clear for indefinite periods of time, and dislocated all the other traffic arrangements, as the then chief of the railway himself declared.

In the first days of May 1904 the Viceroy and the Grand Duke Boris were at Port Arthur, and wished to leave it before they should be cut off. I heard that they actually took three special trains to quit Port Arthur, namely, one for each of them, and one for their baggage and stores! This entirely upset the troop train, supply and ammunition services, at a time, too, when the scarcity of heavy gun ammunition in the fortress was

such that, within a week, Kuropatkin called for volunteers to run a train-load through, which was done a few hours only before the place was definitely invested.

There were, throughout 1904, plenty of other instances of special trains being run for, and siding accommodation occupied by, various individuals, so that the organization and maintenance of the army was considerably hampered thereby, and it is due to the fact that the Japanese, possibly for the best of reasons, gave the Russians time, that Kuropatkin was enabled to build up such an immense army.

As long as the Russians held Mukden, I think that about 700,000 men of all ranks, combatant, non-combatant, sick, and on fortress or depôt duty, might have been fed east of Lake Baikal, but, if Harbin goes, the situation will bear a different complexion altogether. If Japan pushes on along the railway into Trans-Baikalia, a bare and rigorous region, Russia would have to collect a new army west of Lake Baikal, and she could never get it either across the lake or round it, provided Japan retains command of the sea. Lake Baikal is wide; it has few suitable landing-places, and is about 400 miles in length from north to south. In the north a big army could not pass round the lake; in the south the mountains come down to its edge, and a flotilla could easily be prevented from crossing the water. To all this must be added the fact that the Japanese communications could be protected with the very greatest ease.

(7 xxxix.) Signalling.

The Russians do not make use of signalling either in peace time or in the field; I saw occasionally some practice being carried out with heliographs, but I never heard of any instance where these were employed in action.

General Stakelburg was on the right flank of his corps when he decided to retreat from Te-li-ssu on the 15th June, the second day of the battle, and he sent two of his orderly officers to tell Major-General Gerngross, who commanded his left wing, to retire. It required nearly three-quarters of an hour before the order could be delivered, and then it had to be transmitted to the 2nd Brigade of the 35th Infantry Division, which was well advanced at the time. The Russians lost heavily on their left while being withdrawn out of action, and this would have been avoided to a very great extent if the order to retreat had been signalled from General Stakelburg's position, the country being eminently suitable for this method of issuing instructions.

That general then became impressed with the advantages offered by flag signalling, and when his corps was having a period of rest in August, before the retreat to Liao-yang, he had some men instructed in this art. But of course it requires time to make men efficient in a new branch, especially when the instructors have to learn it themselves. The signalling, therefore, was very slow, each letter being repeated as soon as it was sent. General Stakelburg spoke to me about flag signalling on the 12th August, a fortnight before we were ordered to retreat to Liao-yang, and he said he could not rely on it, as it was too slow and uncertain. As a matter of detail, I may mention that the flags used were too small and the poles too long.

There were numerous occasions during the battles at which I was present in 1904 when an efficient system of signalling would have been of great value. During the second day's battle at Liao-yang, on the 31st August, General Stakelberg and his staff were on a hill nearly 700 feet in height, and men were placed up it at a distance of twenty-five yards from each other to carry messages up and down to and from messengers at its base. The general was talking to me about the battle some days afterwards and said the time required to send a message and receive a reply was at least one hour.

An army which has efficient signallers must always have an advantage over one which has not got them, now that troops are so much more widely extended in action than they used to be. At the battle of Liao-yang, on the 31st August, the general commanding the 9th Division sent to say he must be reinforced or retire. While awaiting a reply by messenger he was able to lay hands upon some passing troops destined for

another part of the field, otherwise he would, I think, have evacuated his position, which would probably have led to Kuropatkin's army being routed.

Really efficient signalling is so important that we ought to give proper inducements for its practice in our Service. Our first-class shots receive now extra pay, and first-class signallers should benefit proportionately.

(7 xl.) Staff.

The Head-Quarters Staff of the Russian army in Manchuria had to be improvised at the time when the war broke out, because the existing staff of the Ussuri District, which would in the ordinary course have directed operations, was too junior for the force to be employed. Thus a major-general was chief of the staff, and was replaced by a lieutenant-general, who at that time was to have succeeded to the command in the event of anything happening to General Kuropatkin. Similarly, a colonel was chief of the Intendance Department, and he was relieved by a major-general.

The General Staff, as distinguished from the personal staff of the army in Manchuria, is of the normal strength as explained in books on the Russian Army, and is quite sufficient. I only knew of one exception to this rule, and that was in the case of a lieutenant-general who was appointed to a post hitherto unknown, namely, that of "Director of Medical Services" [*Nachalnik Sanitarnikh Chastei*]. Not having been with Army Head-Quarters, I cannot say exactly what the effect of this new appointment was. My impression is that it was a kind of fifth wheel to a coach, as it had much to do with the movements of ambulance trains, in other words, with the working of the railway, which possessed its own chief, and it also encroached upon the province of the Principal Medical Officer of the Army.

The members of the General Staff had all, with only one exception, I believe, passed through the Russian Staff College, whereas aides-de-camp and orderly officers were selected for personal reasons. Besides these officers, however, the general commanding an army corps or its equivalent usually had several who were placed "at his disposition" [*pri rasporyajenii*], whom he could employ on his personal staff or post to regiments or minor commands.

Among the staff, as among officers of the army, there was sometimes a lack of prompt obedience. I was present when a major-general who was then chief of the staff of an army corps directed an orderly officer of the corps commander to arrange for the conveyance of the spare horses of the staff. This officer declined to carry out the instructions! So did they all one after the other, and the argument continued for three-quarters of an hour. The chief of the staff then told one officer that he must do as he was bid, to which the latter replied, "I will not be a groom!" Eventually the staff adopted the plan of sending spare horses with the first line baggage. It was curious that such a simple matter should have raised such a heated discussion, and still more remarkable that a chief of the staff should have submitted to be treated in the way he was.

Two days after the retreat from Te-li-ssu, namely, on the 17th June, some members of General Stakelberg's staff displayed an ignorance of the situation which caused confusion. The general intended three of his battalions to form a flank guard during the march northwards to Kai-ping, and they were ordered to move off on that date. But at 3.10 p.m. on the 17th June Stakelberg asked his deputy chief of the staff why one of these battalions was at Hsiung-yueh-cheng Station, where the corps head-quarters lay. He did not know, and the chief of the staff could not be found at the moment. The general officer commanding the division from which this regiment of three battalions was detailed was sent for, and Stakelberg inquired from him whether the battalion at the station had been ordered to be sent by train, to which he replied in the negative. The fact was that some member of the corps staff had thought that one battalion was to be despatched by rail, although he could not possibly have made this mistake if he had read the orders, and it appears that the battalion commander received instructions, but not through his divisional commander, to go to the railway station.

The General Staff of the Russian Army is highly educated theoretically, but is faulty in practice. Its members are certain of very rapid advancement, and frequently become general officers at the age of forty, or a little over. They must be young men of subaltern rank when they join the Staff College, and their assured career is apt to render them extremely self-satisfied, which reacted prejudicially upon the army in the field during the campaign of 1904.

(7 xli.) Strategy.

If the Russian army had been assembled, as originally planned, at Harbin, in the north of Manchuria, the Japanese would have been masters of Mukden, and much else besides, many months ago, without striking a blow. But the policy which was actually adopted of concentrating around Liao-yang has resulted in Russia being still, in February 1905, in occupation of Northern Manchuria. This, however, is due to the Japanese not having pushed their tactical advantages after the battles on the Ya-lu in May, at Liao-yang in August and September, and on the Sha Ho in October. They may have had excellent reasons for not doing so, but the fact remains that the time thus afforded to Kuropatkin after each of those conflicts enabled him to keep his hold on Mukden, and increase his military resources enormously.

The general impression which Kuropatkin's strategy afforded to me, however, was that of a man groping in the dark, for I imagine that he must have possessed discretionary power concerning the disposition of his forces, subject to the general plan of concentrating around Liao-yang. A prime feature of the Russian Commander-in-Chief's strategy was his habit of sending troops in dribbles, and breaking up tactical units when this offered no advantage. On the day after the battle on the Ya-lu three battalions of infantry were despatched in that direction, where they could do no good. On the 26th June the so-called 2nd Siberian Army Corps marched from near Hai-cheng to the east of Ta-shih-chiao, and on the following morning eight out of the twenty battalions then composing it were sent back to the former place, which was said to be threatened by Kuroki. Kuropatkin was opposed, it is true, to the attempt to relieve Port Arthur in June, but after he had acquiesced in the plan he would not allow the general who was to undertake the task to assemble the forces which were nominally under him. General Kuropatkin reported to the Emperor that the Japanese made a general advance against his army on the 27th and 28th June, and that Count Keller's force, which was about twenty-four miles east of Liao-yang, had been pushed back by superior forces. Now this danger had obviously existed for some time, but the Commander-in-Chief had not thought so. This is evident because the 3rd East Siberian Division, of twelve battalions, nominally formed part of Keller's troops, but nine of these battalions had been taken away from him, and sent to Hai-cheng in the south, whence three of them returned to Liao-yang by train on the 30th June. In the first days of July the four infantry brigades of the Xth Army Corps were scattered in four different directions, when it would have been preferable to have kept them in a central position, from which they could have

been moved in sufficient time to the south, south-east, or east. Similarly, likewise, in July, portions of the XVIIth Army Corps were also sent backwards and forwards in an aimless manner, until the corps was finally assembled, and despatched to the east of Liao-yang.

The fact that the Japanese had two lines of advance open to them before Ying-kou fell into their hands in July, namely, from Korea and along the railway from Port Arthur, had a kind of paralysing effect on the Russian strategists, who were also, no doubt, badly informed respecting their enemy. The result was that the Japanese secured Ta-shih-chiao, and, with it, Ying-kou, without much difficulty during the month of July. In fact, from June to the end of August they made the Russian army move pretty well wherever they liked.

A council of war was called by the Viceroy on the 3rd August, at which it was finally resolved to fall back everywhere when pressed by the enemy, and accept battle at Liao-yang with the whole Russian army, of which the infantry alone would number at least 140,000 effective combatants. Kuropatkin waited, therefore, quietly for more than three weeks, while the Japanese were completing their arrangements.

My impression is that when the Russian Commander-in-Chief subsequently assumed the offensive, in October, he was not convinced of the soundness of this policy. I was present on the 22nd September 1904, when one general, a firm believer in the offensive, remarked to the Commander-in-Chief that the Japanese had only been able to advance about 150 miles in the course of six months, and begged him to move soon against the enemy. To this General Kuropatkin replied that, six months previously, the Japanese only had three divisions against him, whereas in September they had seven.

(7 xlii.) Supply and Transport.

The supply and transport departments are so intimately connected with one another that it is best to group them under one heading.

Russia had not believed that Japan would fight her; she was therefore unprepared for the war, and had not had time to collect much more than the supplies and transport necessary for current requirements when hostilities commenced. The regulations concerning supply and transport were, as in many other instances, very good, but they were frequently disregarded, and the army was bound to suffer in consequence. It must in fairness be conceded that the original plan of campaign contemplated the concentration of the army at Harbin, so that when it was decided at the last moment to collect it at Liao-yang, nearly 400 miles further south, the difficulties of the intendance in connection with transport were suddenly increased. On the other hand, every war has shown how vitally important it is to be ready to grapple with that which is totally unexpected, and a very brief acquaintance with the Russian intendance shows that its standard of efficiency is not a high one.

When the war began it was necessary to bring some troops from the Vladivostok side, *vid* Harbin, to Liao-yang, and the number of trains required for this purpose prevented a corresponding number for the time being from arriving at Mukden and Liao-yang with troops or stores from Russia. When this movement had been completed the resources of the railway were devoted to the requirements of the military situation, and the civil population east of Lake Baikal suffered considerably in March 1904, from the want of sufficient necessaries of life. The army under Kuropatkin was small enough then, consisting only of 92 battalions, 54 squadrons, and 32 field batteries, but it had to be fed, and arrangements made for the reinforcements which were coming. It was not until the end of March 1904, that the railway authorities allowed, according to the "Zabaikalye" newspaper of the 19th March (April 1st) 1904, eighteen wagon loads of supplies to be brought to Chita weekly. That town has, I should say, 30,000 inhabitants.

It is a mistake to suppose that the Russian military authorities contemplated pouring troops into Manchuria without knowing whether they could be supplied there. There is certainly a limit to the strength of an army which can be maintained in the theatre of war, and although estimating accurately in hundreds of thousands, without precise data to go upon, is a very difficult operation, I am inclined to think that this limit has been nearly reached in February 1905. But there is equally a limit which Japan cannot exceed, and the

territory which she occupies in Manchuria has been swept almost bare of local resources, whereas Russia is not so situated.

That portion of Manchuria which she holds can still supply vast quantities of grain which the flour mills can grind, and Mongolia provides immense numbers of cattle and ponies. The difficulty for Russia concerning supply and transport was two-fold; at the beginning of the war it took time to collect supplies at the various centres, but a far greater obstacle was the distribution to the army, which was continually increasing in size. The native inhabitants brought in what they had to sell, but when the transport service had been organized for some time most of the Chinese carters deserted, in the summer of 1904, one of their reasons being that they were not allowed to feed and rest their animals in their own way; they are very careful in this respect. Their places had to be taken by soldiers.

There were some necessities which Manchuria did not possess, namely, rye for bread, tea, sugar, candles and oil. The Russian soldier prefers rye bread to white, and if he has to choose between meat and rye bread he will select the latter. His biscuit is merely rye bread which has been dried. The Russian scale of rations is adequate. There are no "iron rations" issued as such in the Russian Army; when tinned foods were occasionally distributed the men ate them when they liked, and I estimate that one train of thirty wagons would carry 600,000 rations of them. The troops did not receive spirits, nor tobacco, which is plentiful in Manchuria; they were supposed to purchase this for themselves out of their monthly pay of one shilling a man. As regards the officers, they receive a field allowance, but no rations, on payment or otherwise, unless it be impossible for them to procure their own supplies privately. It frequently happened during the campaign of 1904 that sugar was issued to officers, as this is a necessary of life to a Russian, and was seldom to be purchased.

The problem of the distribution of supplies to a large army in Manchuria is one which would tax severely the energies of a highly trained army service corps; a few hours of heavy rain sometimes render the roads, or rather tracks, impassable for heavy traffic, and the numerous rivers unfordable. Nevertheless, the supply and transport services were not nearly so efficient as they could have been, the reason being that the Russians are not in practice good organizers.

When the war broke out Harbin and Liao-yang were the two great supply depôts, Mukden having since taken the place of the latter in this respect. The Director of Supplies with the Russian army in Manchuria told me on the 20th April 1904, that he would not require more than 300 officers and officials to arrange for the supply of Kuropatkin's army, which was then intended, when complete, to amount to 188 battalions of infantry, 102 squadrons, and 608 field guns, besides horse artillery and engineers. But now, in February 1905, Kuropatkin has on the Sha Ho 364 battalions, about 200 squadrons, and over 1,200 field

guns, besides heavy guns, horse artillery, machine and mountain guns, and engineers. The personnel of the intendance department had therefore to be augmented so as to keep pace with the growing strength of the army.

When preparations were being made, in May and June 1904, to relieve Port Arthur, supplies for the relieving force which was astride the railway were difficult to bring up, besides which most of the Chinese inhabitants in the Te-li-ssu district had fled. Now note what happened. On the 30th May, at Hai-cheng, which is about 75 miles north of Te-li-ssu, several hundred head of live cattle which had been destined for Port Arthur, then cut off, were sold by the Russian intendance to Chinese for what they would fetch. They were chiefly bullocks, and each one was weighed, the average being from five to seven hundred-weight. As it is the custom of Russian troops to drive their cattle with them on the march, these animals could have accompanied the advance, and would have been greatly appreciated a few days later in a region where it was already known that supplies of any kind would be exceedingly difficult to obtain. During the retreat from Te-li-ssu the Russians were all very short of provisions, and I saw a soldier take off an excellent pair of long boots and give them to a native in exchange for four small cakes of meal. On the 17th June, two days after the defeat, the men were desperately hungry, and some wagon loads of rye bread arrived by rail, sealed up, from the north. The intendance declined to break the seals, refusing to take the responsibility. Fortunately for the troops, the acting chief of the staff of the corps opened the wagons himself.

This same army corps, the 1st Siberian, was encamped close to the railway at An-shan-tien, 20 miles south of Liao-yang, during the month of August. Yet in the middle of that month even the orderlies and other men attached to the corps headquarters were only receiving biscuit and thin meat soup, but no bread, salt, sugar, or tea. On the 16th August I heard the Deputy Director of Supplies inform the corps commander that he could let his troops have only 3,600 lbs. of sugar, or about two ounces per man. He added that there was an ample stock at Harbin, some 400 miles away, but it was impossible to get it down south. A week before the Russian army retreated to its positions at Liao-yang, an officer who commanded a small mixed force complained that he had received no supplies for his men for some days previously. After the retreat from Liao-yang to Mukden the troops had for several days meat, but no bread, biscuit, sugar, tea, or salt. Although the second and third line transport had been sent north in anticipation of our retreat to Harbin, matters could have easily been better managed than they were with a great city of a quarter of a million inhabitants close at hand, while Tientsin was only four days distant through neutral territory. The Chinese merchants would have obtained and distributed provisions if they had been paid beforehand; they are very reliable men, and money

was no object to the Russian authorities. As the Japanese, however, did not pursue the Russian army, it lay around Mukden, and the Chinese soon imported supplies on their own account. After the army had been there for twenty-six days I heard the officer commanding the Primorsk Dragoons report that his men were complaining of the want of rye bread, which they would have preferred to the meat they were receiving.

The Russian forces began their advance from Mukden against the Japanese on the 5th October 1904. This movement had been decided upon by the 13th September, for a senior staff officer told me on that day that the Commander-in-Chief intended to assume the offensive at an early date. There was plenty of time, therefore, by the 5th October to have arranged for the regular issue of necessaries. But several units of the Eastern Army received nothing whatever either on the 5th or 6th October, although their transport had arrived in camp by 5 p.m. on each of those days.

Wastefulness was a great fault; crops, whether gathered or not, were recklessly used up or spoilt, to the subsequent detriment of the army. Of course, when supplies were issued so irregularly, the troops had to take what they could find on the spot, and many of the natives were ruined thereby, as no compensation was paid to them. When winter set in the scene of operations had been swept bare, but there were still quantities of supplies north of Mukden, which the inhabitants were afraid, at the time, to bring down south, lest their carts should be seized.

As long as the Russian Army remains stationary, as it has done since last October, the troops, no doubt, will receive regular issues of supplies, but when it begins to move again I have no reason to believe that the supply service will be more regular than it was during the campaign of 1904, when it did not become really efficient until troops had been stationary for about a month, as a rule. It was remarkable how the men stood so well the often needless privations to which they were subjected.

After allowing for all the great difficulties which the Russian Intendance Department had to grapple with in 1904, I am of opinion that the mobility of a Russian army, even if it be close to a railway, will always suffer owing to irregularity in issuing supplies. These were in existence in the theatre of war in 1904, or else they were being brought to it, but the weak point was their transport to the troops.

The transport columns are termed "Military Transport No. I," or whatever number it may be, and are both draught and pack. The strength of each column appears to vary according to the circumstances of the moment, and the column, whether draught or pack, is divided into sections, each of which is loaded with one kind of supplies. These columns replenish the transport trains of army corps. Their vehicles are either Chinese carts or the Russian military two-wheeled one-horse carts, supplemented, sometimes, by what we should call general service wagons.

Immense quantities of two-wheeled carts were brought to Manchuria, and they are used for all transport purposes except the conveyance of small-arm ammunition. The shafts are rather apt to break, and sometimes a wheel would get out of shape, but these are merely defects of material. These carts were usually much too heavily laden, and this frequently necessitated two animals being harnessed to each when the roads were in good order. After a few hours rain these carts could not, as a rule, get along Manchurian tracks with less than two strong animals even with a light load, and not always then. It is the simplest thing in the world to fit these carts for a pair of horses. A short bar of wood is lashed by its middle to the footboard, and the ends of the traces are made fast to it. These traces are of rope, and the loose ends are run through rings on the hames, and then knotted at the length necessary for any particular animal. This is a much better system than having leather traces, which do not permit of the same set of harness being used for a small pony or a 16-hand horse indifferently.

A two-wheeled cart consists of two sides, a tailboard, floor, seat, footboard, a small-store box under the footboard, two shafts, and a prop, all of wood. There are two steel trace hooks underneath the shafts, one footstep, and a canvas waterproof cover to go over the body of the cart. The spokes of the wheels are of wood, and so are the naves. There are linch pins but no washers, two steel stays underneath the body of the cart, and two split-pins to fasten up the tailboard, which lets down. At each point of a shaft is a hasp to take the Russian hames.

The dimensions are as follows:—

Length of side	-	-	-	-	62½	inches.
Depth of side	-	-	-	-	22½	"
Width of cart at top	-	-	-	-	41	"
Width of cart at bottom	-	-	-	-	35	"
Width of seat	-	-	-	-	14½	"
Length of seat	-	-	-	-	31½	"
Width of footboard	-	-	-	-	13	"
Length of footboard	-	-	-	-	39½	"
Width of store box	-	-	-	-	12½	"
Length of store box	-	-	-	-	29	"
Depth of store box	-	-	-	-	7½	"
Length of shaft	-	-	-	-	111	"
Diameter of shaft	-	-	-	-	2½	"
Length of prop	-	-	-	-	32½	"
Diameter of wheels	-	-	-	-	48½	"
Width of (solid) tire	-	-	-	-	1½	"
Length of nave	-	-	-	-	8½	"
Circumference of nave	-	-	-	-	27	"
Wheel track	-	-	-	-	53	"
Number of spokes	-	-	-	-	14	
Number of felloes	-	-	-	-	1	

There is a strap and buckle to tie up the prop for travelling.

The axletree is of steel, and is not round. It is flat on the top, where a piece of wood along it connects the axletree with the bottom of the cart. The axletree is joined to this piece of wood and to the bottom of the cart by 10 bolts and nuts, namely, 4 at each end, and 2 in the centre. The piece of connecting wood is 3 inches in depth and of rectangular section. The axletree is $1\frac{3}{4}$ inches deep at each end, and $1\frac{1}{4}$ inches deep in the body; it has no bed.

The wheels are dished, and the top of the wheel is about 2 inches below the top of the side of the cart.

It would have been strange if a good many of these carts had not broken down in Manchuria, considering the bad roads, and the manner in which they were overloaded. In my opinion they are capital vehicles. They had, indeed, exceptional trials; it was no uncommon thing for transport columns to lose their way and to get into desperately bad places in the dark. On the 18th September 1904, the baggage of the 1st Siberian Army Corps had to go a distance of 3 miles along a straight road; it started at 4.30 p.m. and reached its destination at 11 p.m., owing to the carelessness of the officer in charge of it.

Motor traction is not suitable for a country like Manchuria, which has no roads in our sense of the term. The Commander-in-Chief had an automobile, but I was told that it was usually under repair.

Experience has led me to the conclusion that officers should be practised at uncertain times in the important duties of supply and transport. These were not performed by the Russians as efficiently as they could have been, although money was no object, and I think that the mobility of the army will continue to suffer in the future, as it has done in the past, owing to regulations being disregarded both in the spirit and in the letter.

(7 xliii.) Tactics.

The Russian Army had been brought up on the idea that shock tactics and close order were the best means by which to win battles, and it was really for moral reasons, and to frighten other countries, that a magazine rifle was issued to its troops some years ago. The regulations certainly contained rules for firing lines, supports, and reserves, but this was mere vapouring, and was never intended to be taken seriously. It was the bayonet which was "to do the trick."

The Russians having failed to grasp the importance of fire, attempted to put their old-fashioned theories into practice, and an officer told me that, in the very first action of the war, that on the Ya-lu, a regiment began its advance with the bayonet when about half a mile from the enemy, and was, of course, cut up. The Japanese were blamed during the earlier phases of the campaign for avoiding shock tactics; the Russians could not understand that their enemy wished to gain victories, and to this end, made use of his modern arms. When the occasion arose, however, the Japanese were bold enough with the bayonet, but they could not have got to close quarters in those instances with which I am acquainted if their adversaries had been good shots. This is merely another way of saying that fire is now, or should be, the all-important factor in a battle.

It certainly seems to me, judging by what I have seen of the German Army in peace and of the Russian Army in war time, that neither the one nor the other puts into practice the true theory underlying magazine rifles, namely, that their power of fire, both in attack and defence, enables fewer men to do greater execution than a larger number can do with the single-loader, and tactics can be affected in consequence. Of course I am not suggesting reckless expenditure of cartridges, for this would imply bad training. Nor is it to be expected that soldiers will shoot like first-class game shots, who use thousands of cartridges year after year, yet frequently miss their birds. But practice improves all men, so that the more of useful practice we give the better it will be, and money will be saved in the end.

But no interest had been taken in musketry in the Russian Army, and I heard one of the most efficient Russian generals of my acquaintance say, after the retreat from Liao-yang, that good shooting is no more useful than bad in a battle. What he meant was that a bad shot armed with a good rifle is just as likely to hit something by firing "into the brown" as a good one who aims at a particular target. I do not agree with his theory. It is not suggested that troops exposed to a hot fire will shoot as accurately as they would do if the excitement of battle were absent, but I do believe that the British soldier of good type can be trained to become much more expert in the

use of the rifle in action than his colleague of any other country in Europe.

Experience in the field soon taught the Russians that, in the attack, fire was better than the bayonet, and extension preferable to the close order in which they had been trained.

A Russian battalion in the attack would place one company in the firing line, one in support, and the remaining two in reserve, but in many cases such a firing line was much too weak at the outset, nor was enough use as a rule made of the supports. It seemed to me that to employ such small numbers in the firing line, where there is room for more men well extended, is wilfully to deny oneself the advantage to be gained from a heavy fire. The Russians favoured volleys, which, with their low standard of musketry training, may have been the wisest thing to do. On the second day of the battle of the Sha Ho, in October 1904, I observed volleys being fired by some squads which were well extended for attack. The Japanese were much better than the Russians in making use of available cover, and were far more active on their legs.

There were other causes besides bad marksmanship which contributed largely to the failure of Russian offensive tactics in 1904. On the one occasion when the whole of Kuropatkin's army advanced against the enemy, namely, in October, the continued reverses which it had previously suffered had, no doubt, much to do with its failure. Nevertheless, seeing that the movement was a kind of forlorn hope on a gigantic scale, it seemed to me that the Russian generals were nervous about taking risks, and they lacked initiative and promptitude owing to their national temperament. After making all allowances, however, the strong impression was left upon my mind that Russian commanders are not capable of conducting offensive operations to a successful conclusion against a brave, well-armed, well-trained, and well-led enemy, provided that the numbers be not very disproportionate. If they are, then dead weight is bound to tell.

Lieut.-General Count Keller, who was killed in Manchuria, told me about ten years ago that he thought modern continental armies were too large for a commander to handle with decisive effect, and that smaller forces, not raised by conscription for choice, which could shoot well, would be preferable.

The Russian troops, however, have always been at their best in the defence of positions, and it is interesting to examine their procedure in this respect during the campaign of 1904. The battle of Liao-yang was intended by the Russian generals to be a decisive one, ending with the complete defeat of the Japanese. Yet the tactical plans for it really only arranged for a purely passive defensive, which cannot win signal success. The positions were packed with men, and although Kuropatkin kept a large general reserve under his own orders, I do not think he ever contemplated using it except as a purely defensive body. His previous strategy led me to this conclusion, and I have

commented on that under the section "Strategy" in this report. But, disregarding this theory of mine, let us see what happened with the 1st Siberian Corps, under General Stakelberg, which was admittedly one of the very best, if not the best, in the army, disliked though its commander was. His trenches, which were very strong, were filled with men, and this left him practically no force in hand. But he could have held them with considerably fewer men by utilizing the advantages offered by the magazine rifle; he would then have had troops available for a resolute counter-attack, and the losses in the trenches, which were immense, would have been fewer.

Some of the foreign officers declared that Stakelberg should have made a counter-attack after the Japanese, who had been assaulting him for two days and a night, were beaten off on the evening of the 31st August. But only one of these critics saw the battle, and they failed to take the human factor into account; the men were no longer, in my opinion, physically fit for such an undertaking, which would have meant advancing down open slopes into the plain in full view of the Japanese, who would have shot them down. Such an attempt could, however, have been made from another quarter with prospect of success by fresh troops.

On the 30th and 31st August some Japanese infantry made determined but unsuccessful attempts to capture one of Stakelberg's trenches which was held by a couple of hundred Russians standing shoulder to shoulder. These attacks were purely frontal, and the Japanese came into open ground at a range of a few hundred yards. The Russians presently fired volleys at them, about thirty or forty of the Japanese falling each time, but always in bunches of men who had been near together. This showed either that the majority of the Russian bullets did no damage, or else that too much lead was put into each of the enemy who was struck. This is another out of numberless instances afforded by the war which shows the enormous importance of first-class practical musketry training. If the Russians had been good military shots, the Japanese who attacked Kuropatkin's right at Liao-yang would have been crushed, and a counter-attack would have finished them.

The Russian commanders were, I suppose, satisfied with the musketry efficiency of their troops, so that their tactics on the defensive showed preference for passive resistance.

Frontal attacks were a very conspicuous feature on both sides during the late campaign in Manchuria. In some instances they could have been advantageously omitted, and flank attacks made in their stead, but when armies, each numbering say 200,000 combatants, cover the whole of the ground available for a battlefield, as on the Sha Ho, frontal attacks cannot be avoided. The Japanese have shown that they can succeed against equal or even superior numbers, but it has happened also that the assailant in such cases was too exhausted sometimes to be able to push his advantage. The

battles at Liao-yang and on the Sha Ho in 1904 afforded illustrations of this fact. Briefly stated, the tactics of both sides, during the campaign of 1904, consisted chiefly of hard pounding, and the Japanese pounded hardest.

A favourite feature of Russian tactics is that of making reconnaissances in force, with the cut-and-dried intention of retiring afterwards, instead of attempting to push any advantage which may be gained. General Kuropatkin is one of the many exponents of this theory, and still held to it when experience had shown that such tactics can only give an enemy warning, if he need it, to say nothing of the losses suffered during the subsequent withdrawal. His general instructions to Count Keller, when the latter was in command of the troops to the east of Liao-yang, were to make "offensive demonstrations," of which the following is an instance. About 1 a.m. on the 4th July 1904, Keller sent three battalions to reconnoitre. They lost about 50 men during their advance, and were ordered to retire shortly after daybreak, when they had more than 300 fresh casualties.

The Russian field artillery was grouped into brigades of three, four, six, or eight batteries each, and I did not once see as many as three batteries take up a position for action at the same time.

I estimate the cavalry, whether regular or Cossack, as being the least useful of the three arms in the Russian Army. In Manchuria it is nearly all composed of badly mounted Cossacks, and the cavalry did practically nothing up to the date when I left the army, in December 1904. Even if it had been well horsed I do not believe that it would have been efficient in shock action, and certainly not in fighting on foot.

It is possible that, when this war is over, the importance of musketry training will be insisted upon, and its present low standard raised, in the Russian Army, but practical tacticians are also necessary if victories are to be gained over well-trained armies of fairly equal strength. The Russian tactics in Manchuria were unsuited to modern requirements, and are likely to remain so, owing to lack of initiative and zeal in the leadership, which will have but a small share in defeating the Japanese, should Russia emerge victorious from the contest.

It would appear that the advantages offered by assuming the offensive are greater now than they were when troops in action were less widely extended, if really large armies be concerned. For if the length of a line of battle be equivalent to one or more days' march, the attackers will be able, in the hands of a capable commander, to alarm their opponents, and cause the decisive point of attack to be guarded with too small a force. The defending general will not then be able to reinforce that point in time with a sufficient number of troops, because he will have sent reserves too far away elsewhere.

The Russo-Japanese war has proved that it takes an immense amount of fire to drive Russian troops out of strong

positions, and unless Russia's future adversaries are strong enough in numbers, and sufficiently good shots to do this, the bayonet will have to be used frequently, for which strong men are requisite. Although, as I have already said, the Russian standard of musketry is low, yet it demonstrated well the stopping power of the rifle on several occasions. I observed no instance in which the Russian infantry employed long range fire.

A common tactical experience of this war has been the frequent marches and operations by night in all weathers, but troops must be of very fine physique to be able to carry them out often.

(7 xlv.) Topography.

The Russians had prepared an excellent map of Manchuria from Liao-yang to the south on a scale of $1\frac{1}{2}$ miles (2 versts) to 1 inch. I frequently saw it, but was never able to procure a copy, for the ostensible reason that it was a very secret topographical piece of work. As a matter of fact, the Russians had not nearly enough copies of it for their own requirements. They had also prepared a sketch map of the same region on a scale of $33\frac{1}{2}$ miles (50 versts) to 1 inch, which showed the approximate distances between inhabited points, but was of no real military value.

When the Japanese became masters of Liao-yang the map difficulty was a very serious one for Kuropatkin's army. A map of the country to the north of that city had been hastily prepared on a scale of $2\frac{1}{2}$ miles (4 versts) to 1 inch. It was very far from being complete, and was, indeed, practically useless. Of course a map on such a small scale was unsuitable in itself for military requirements, but there was no time to make a new one. A revised edition was, however, hurriedly prepared, but it contained exceedingly grave, indeed, sometimes fatal errors. During the battle on the 2nd September 1904, General Stakelberg sent an aide-de-camp with a message to the Commander-in-Chief who was some miles away; he lost his way owing to the inaccurate map, which was one of the first edition.

Time had only permitted of very few copies being struck off, and only fifty of the first edition could be issued by the middle of September to the 1st Siberian Army Corps. On the 8th October, when the whole Russian army was advancing to attack the Japanese on the Sha Ho, the general officer commanding on the extreme left had received no map at all, and the chief of the staff of the Eastern Army said that three copies of the revised edition must be sent to him at once. This was only accomplished by depriving other officers of their maps. The general commanding the 3rd Siberian Corps, which was destined to attempt, three days later, an exceedingly difficult task, in which it failed, had only received eight copies of the revised map for the whole of his force of 24 battalions and 8 batteries. The chief of the staff of the Eastern Army and his deputy only had one map between them of the region to be operated in, and on one occasion the exigencies of the situation caused them to be separated for a whole day. On the 11th October, the first day of the battle on the Sha Ho, the 3rd Siberian Corps came across some forbidding looking mountains where it expected to find fairly easy ground, and its losses were greatly aggravated in consequence. There were several similar instances, and neglect of topography has had its full share in causing Russia's enormous list of casualties in action.

(7 xlv.) Water.

The water supply in those districts of the theatre of war where I served is plentiful, but of very bad quality, because both the rivers and the wells were constantly fouled by the troops and by the Chinese. The wells are also very shallow, perhaps twenty feet in depth to the surface of the water on the average; as they were not protected at the edge all kinds of matter got into them, nor were any methods of filtration used. However, the Russians are acclimatized to this sort of thing, and therefore do not suffer nearly so much as our troops would do under similar conditions.

The wells were not protected by sentries until August, when a rumour was spread that Japanese emissaries intended to poison the water. The wells in a village were then allotted—some to the troops, and others to the Chinese.

Whenever I had time I boiled my water thoroughly. An aluminium water-bottle is by far the best one to have, because boiling water does not damage it as in the case of bottles made of vulcanite material, which are also apt to break if they fall. I found that in an aluminium bottle my tea kept quite fresh for three clear days, although the colour changed, and in really hot weather a tablespoonful of sweetened Montserrat lime-juice made it a still more refreshing drink. One bottle of this juice would last me for more than three weeks easily. If water alone be used, it becomes tepid except in cold weather, but very weak tea is equally refreshing, whether hot, tepid, or cold. If an aluminium bottle be covered with felt it keeps the contents cooler of course.

When opportunity offers the best plan is to boil water overnight, and fill the bottles ready for an early start, but troops will seldom do this unless officers make them. If I drank really bad but boiled water, with no tea in it, for three days it gave me diarrhoea, but I never suffered from this, however bad the water was, if it had tea in it, nor did I ever use any means of filtration.

(8) General Report on the Russo-Japanese War up to the 15th August 1904.*

REPORT by Major J. M. HOME, 2nd P.W.O. Gurkhas;
November 1904.

(8 i.) General Deductions.

Artillery.—The great impression made on my mind by all I saw is that artillery is now the decisive arm and that all other arms are auxiliary to it. The importance of artillery cannot be too strongly insisted upon, for, other things being equal, the side which has the best artillery will always win. Better artillery tactics may make up for inferiority in armament, as it has very largely done in Manchuria, where the Japanese had a gun decidedly inferior to that of the Russians; I estimate the difference numerically as two to three.

The superiority of the Russian gun is a factor which must not be left out of consideration in any estimates which may be made as to the final result of the war.

So strongly am I convinced of the immense importance of artillery that it seems almost a question for deliberate consideration whether artillery should not be largely increased even at the expense of the other arms. Infantry can, if necessary, be trained in about three months, whereas artillery cannot be so improvised.

The value of mountain guns was fully proved in the earlier months of the campaign, when the Japanese, who had a large number of them, were able to bring them into action on ground where the Russians were unable to get their heavier though more accurate guns into position, and consequently had to fight very largely without the assistance of the decisive arm.

Cavalry.—I saw only one regular cavalry regiment, two others had arrived just about the time of my departure; the country was unsuitable for cavalry, and it was therefore impossible to form from actual experience any judgment as to the value of cavalry in the field.

Infantry.—The Russian infantry is distinctly good; well armed, and fairly well officered. Its training leaves much to be desired, as the importance of fire is not sufficiently insisted upon, the bayonet being generally considered as the most important infantry weapon.

* The medical portion of this report has been extracted and will be found in the volume of Medical Reports; the historical portion has been placed at the commencement of this volume.

With the extraordinary development of artillery it begins to appear as though infantry fire action cannot usefully be employed at ranges beyond 600 yards, as beyond that distance the hostile guns ought to be able to prevent infantry from using their rifles. Of course occasions will often arise when, in the absence of artillery, infantry will be able to take advantage of the range of their own arm; though from a consideration of the difficulty of observation of fire and supply of ammunition, it appears to me as though any firing beyond a distance of 1,000 yards would not justify by its results the expenditure of ammunition involved. If, however, troops uncovered by artillery are foolish enough to move about in the open in close formation at such ranges, infantry fire will no doubt prove most effective.

The army as a whole.—The uninterrupted series of Russian defeats tends to make the Russian Army appear greatly inferior to what it really is. These defeats have been largely due to causes which conceivably may be remedied; the main causes, to my mind, appear to be faulty strategy, and staff work and indifferent leading on the part of the generals, and to a certain extent faulty artillery tactics and an inability to get the most out of the really excellent gun with which the Russian artillery is armed.

The older generals may be replaced by younger and better men, and the staff may be weeded out and may learn by experience.

So far as the artillery is concerned, the gunners must learn their weapon by dint of constant practice; many batteries had never seen the gun until they were re-armed at the outbreak of hostilities, and there was latterly a decided improvement in artillery tactics.

The weakest point of the Russian Army, however, was that the generals or staff officers seemed to be unable to combine the operations of the very large forces available in the theatre of operations; each group worked more or less independently and, so far as one could see, without any adequate supervision from Army Head-Quarters. From what I saw and heard it almost appeared that there was no staff officer capable of combining the movements of more than 40,000 men. This inability to combine the movements of the different groups was in very strong contrast to the higher leading on the other side, where the movements of the different groups seemed to fit into each other with almost mechanical accuracy. This defect will doubtless also be remedied in course of time.

The army, taken as a whole, is distinctly a good one, it is well armed, equipped, and disciplined, and so far as the junior regimental officers are concerned fairly well officered, the raw material from which it is recruited is excellent, and the medical and commissariat arrangements are good.

(8 ii.) Strategy.*

Russian strategy was greatly hampered by dual control, the Viceroy advocating one line of action and the Commander-in-Chief another, with the result that when, as invariably happened, the Viceroy's views were forced on General Kuropatkin they were only half-heartedly carried out by the subordinate generals. These very often received contradictory orders from the two chiefs, and really did not know what to do, the result being that they neither fought to a finish nor avoided a serious engagement, but having become involved with a portion of their force, retired after heavy losses without having attained any definite result.

The outbreak of war found Russia quite unprepared; none of her forces were mobilized and the troops available in the Far East were much scattered, the only considerable concentrations being at Port Arthur and in the neighbourhood of Vladivostok.

It may, I think, be accepted that General Kuropatkin's views were to evacuate Southern Manchuria, and having garrisoned and provisioned Port Arthur as far as possible, to concentrate at Harbin; then, after he had collected the forces he considered sufficient, to take the offensive from that neighbourhood against the Japanese; some say that he advocated the evacuation of Port Arthur and a concentration at Harbin of all the Russian forces.

The whole question of sea power was intimately connected with Port Arthur, for the main portion of the Russian fleet was concentrated there.

From the nature of the case, should the Japanese lose command of the sea the whole of their land operations are bound to fail, as they would be unable to keep their armies supplied with the munitions of war or the necessary drafts required to replace casualties.

It seems highly improbable that General Kuropatkin could have really intended to evacuate Port Arthur, for owing to the fact that the Japanese had succeeded in putting several of the Russian ships out of action during the first few days of the war, and that these damaged ships were in Port Arthur harbour, they would be permanently lost to the Russian navy if the fortress were evacuated. These ships being out of action, the Russian fleet was reduced to a state of inferiority as compared with that of the Japanese, and that if Port Arthur were evacuated and the ships fit for action were directed to try and break through to Vladivostok it is practically certain that they would have been unable to do so, and would have been all sunk or captured; in this case Russia could never hope,

* See Map 89.

even with the assistance of the Baltic fleet, to establish command of the sea. It follows therefore that the retention of Port Arthur was absolutely necessary until the injured ships were repaired, but by this time the fortress was already invested.

When General Kuropatkin arrived in the Far East he found that half of the Port Arthur garrison had been sent to the Ya-lu; and that, so far from concentrating the available troops, an attempt had been made to cover all important points, with the result that the Russians were weak everywhere.

The Commander-in-Chief, when he found that his views were not approved by his superior, loyally tried to carry out his instructions and by the end of April had concentrated his forces in three main groups, at Port Arthur, at Ying-kou and Ta-shah-chiao, and on the Ya-lu, with a central reserve at Liao-yang. The troops in Vladivostok and vicinity were not under his command, consequently he had no voice as to their employment.

It seems certain that General Kuropatkin instructed General Zasulich not to become seriously involved on the Ya-lu, but to retire fighting a rear guard action; it seems equally certain that the Viceroy told him to stop the Japanese at all costs. The result of these contradictory orders was that the commander on the Ya-lu carried out neither set of instructions in its entirety, but became involved in a general action, in which, however, he only seriously employed 11 battalions and 5 batteries out of 21 and 8 respectively.

The Commander-in-Chief, when, contrary to his better judgment, the offensive towards Port Arthur under General Stakelberg had been decided on, did his utmost to concentrate as large a force as possible for the purpose. He has been blamed for not putting more troops at Stakelberg's disposal, but it is hard to see how he could have done so. He could not denude Liao-yang of troops; he had to cover Ying-kou and the coast north of Wa-fang-kou, in order to prevent the Japanese from landing troops north of Stakelberg, and so cutting him off and forcing him to surrender. The offensive, as everybody expected it would, ended in a fiasco, but for some reason the Japanese were slow in following up their success; possibly owing to want of ammunition, of which they must have been very short after the battle, they did not dare risk following too closely on the retiring Russians for fear of meeting the fresh troops who had been stationed at Wan-chia-ling and Kai-ping to guard the coast and prevent any hostile landing.

The further retirement to Ta-shih-chiao was in accordance with the Commander-in-Chief's ideas; there were no serious engagements, and by the middle of July there was a fairly large Russian concentration there. Here again the Commander-in-Chief's ideas were overruled, and Ta-shih-chiao was directed to be held at all costs, with the result that the 4th Siberian Corps on the Russian left was badly beaten and the place was

evacuated, the retirement being carried out in great disorder. By this time it was apparent that the Japanese had been considerably reinforced, and Kuropatkin did not hesitate to denude Liao-yang almost entirely of troops, concentrating practically all his troops in two large groups, one in the south near Hai-cheng and the other in the east in the neighbourhood of An-ping.

So far as one could see, the retirement on, and concentration at, Liao-yang were skilfully carried out by the subordinate generals, and considering the large forces then being dealt with, without any very serious losses.

However, constant retirement had had its effect on the army as a whole, and there can be but little doubt that the *moral* of the Russian army at Liao-yang was not what it ought to have been, for otherwise it is impossible to understand how the Russians were driven by an inferior number of Japanese out of a strong defensive position provided with many semi-permanent works, unless it was that the Russian Commander feared the result, and kept unnecessarily large numbers in reserve until it was too late to retrieve the fortunes of the day.

In the whole course of the campaign, so far as it has gone, the original faulty grouping of the forces has left its mark on the result, for nowhere were the Russians really strong, and none of the different groups were within real supporting distance of each other. The central group was never within supporting distance of the southern and eastern groups, which, in their turn, could not mutually support each other. When eventually the central group was sent up to reinforce the others, it was split up, part going south and part east; there was never any real effort to make one of the groups superior to the enemy opposed to it.

So long as the line of the Fen-shui Ling crests was in Russian hands, Kuroki's army was unable to advance on Liao-yang, and considerations of supply, time, and space make it appear doubtful whether he could have advanced with a sufficient force *vis-à-vis* Hsing-ching Ting on Mukden, and guarded his communications at the same time, if the Russians still held the Fen-shui Ling crests.

Had, therefore, the Russian Commander, when his original plan of evacuating Southern Manchuria was overruled, kept his eastern group at much greater strength, massed his cavalry on his right in country suited to its action, and held the railway only lightly, it is possible he might have kept the Japanese at bay sufficiently long to have concentrated a superior force on the railway, and so have beaten Oku and Nodzu before letting go of Hai-cheng and the Fen-shui Ling crests, in this case Kuroki would have been obliged to go back as well; for such a concentration Kuropatkin might have had five or six army corps and the bulk of his cavalry, which would have left two and a half to three and a half army corps to hold the crests.

The necessity of holding Port Arthur proved fatal to Russian strategy. The Viceroy, being a sailor, could think only of the

fleet, and everything was subordinated to the idea of relieving it. Moreover, Russian prestige was so bound up with Port Arthur that the authorities at St. Petersburg could not avoid interfering with the commander on the spot with a view to forcing him against his better judgment to adopt a plan of action which he was unable to carry out in its entirety.

It is true that the fortress held round it a force of Japanese considerably larger than its own garrison; still, the numerical superiority of the Japanese at the commencement of the war enabled them always to oppose superior numbers to the isolated Russian groups, with the result that the *moral* of the army became so affected that in the end, though the Russians concentrated a superior force, they were defeated by inferior numbers.

The action of the Russian fleet is not easy of explanation. When after the repair of the injured ships, it was apparent that the Baltic fleet could not arrive for some months and it was possible that Port Arthur might fall before its arrival, it would appear that the Russian fleet should have sacrificed its last ship in attempting to do as much damage as possible to the Japanese fleet, and so make the task of the Baltic fleet easier. This was all the more important seeing that the whole land operations of the Japanese must immediately come to an end if they lost command of the sea.

The most remarkable fact of all, connected with the strategy of the campaign, is the incorrect estimate made in Russia of the forces which would be required for the war; even General Kuropatkin, who had a truer estimate of the Japanese army than almost any other Russian, considered that a field army of 13 divisions would be ample to drive the Japanese into Korea, and force them to raise the siege of Port Arthur. He must have had 13 divisions available at Liao-yang and yet acting on the defensive, was beaten by an inferior number of Japanese.

(8 iii.) Tactics.

The great impression made on my mind, and one which it seems to me cannot be too strongly insisted on, is the overwhelming effect of modern artillery ; in fact it does not appear too much to say that, under modern conditions, artillery is the decisive arm and that the other arms are auxiliary to it. Though it is true that the object of all tactics is to obtain superiority of fire at the decisive point, in the same way that the object of strategy is to obtain superior numbers for the decisive battle, still the means to be adopted to obtain this result vary with circumstances ; in other words, there can be no standard forms of attack or defence.

After the strategical concentration of the hostile forces has been completed, both sides, if there are not already fortified positions in existence, will proceed to fortify strongly some position or positions beyond which they will cautiously advance. When the advanced troops come into contact there will be a considerable amount of manœuvring in which one side will get the worst of it and be forced back on to its main body, which will either accept battle on some favourable position or retire to a position already prepared. In either case one side will, from the necessity of the case, adopt the offensive and the other the defensive, and the battle must assume the character of the attack and defence of a position.

In spite of all improvements in modern weapons the advantage still seems to rest with the offensive, and this, paradoxical though it may appear, is largely due to the great improvement in modern weapons.

The attack, even assuming that each side has equal numbers and equally good artillery, has the advantage of the initiative, and is able to concentrate the fire of a superior number of guns on that portion of the enemy's position which the attacking general has decided to crush. Where large numbers are concerned it appears probable that the attack will spread out a thin line of troops all along the hostile front, and concentrate a large force of guns opposite that portion of the position which it has decided to pierce ; under cover of the fire of this artillery it will launch its infantry to the attack.

Artillery.

The Attack.—The tactics of the attacking artillery would, therefore, appear to be to spread guns all along the front, pending the decision of the Commander-in-Chief as to the real point of attack. Here a really large force of artillery will be concentrated, and this should be so done that the enemy will get no notice of the point from which the real artillery attack is coming, otherwise

he will be able to take his measures accordingly. When the guns have been concentrated every effort should be made to open fire simultaneously ; if it is possible to employ indirect laying, all the better, but this is not so important for the attack as for the defence, as the former will, from the necessity of the case, have a superior number of guns available. The first object of the attacking artillery will be to silence the hostile guns in that part of the position where the main attack has been decided on. At Wa-fang-kou (Te-li-ssu) the Japanese permanently silenced the Russian guns in the centre in ten minutes, but here in addition to the initiative they had, as I now know, a very great superiority in guns, though at the time it did not appear that they very greatly outnumbered the Russians.

The effect of the Japanese fire on the Russian guns in the centre was so terrific that fourteen guns had to be abandoned owing to the teams and gunners being killed, and the other two batteries had to retire. The two batteries which were practically annihilated were in gun pits, the teams were behind the hill on which the guns were posted.

Once the artillery of the defence has been defeated every available gun should be turned on to the position selected for the infantry assault. Owing to smokeless powder and the long range of modern artillery it will often be impossible to tell the exact position of the enemy's troops. So far as the Japanese were concerned this difficulty was not so apparent, as the Russian guns had not smokeless powder, there was but little smoke, but still there was always quite sufficient to reveal their position, and their engineers did not seem at all skilful in hiding the position of their works, though in this respect I noticed a great improvement as the war went on ; some of the positions to the east of Liao-yang were very skilfully concealed.

Owing to this difficulty of exactly fixing the position of the enemy, it may often be necessary to distribute fire, by which I mean divide the hostile position up into squares or zones and bombard each portion for some little time ; so far as I could see this was the plan adopted by the Japanese, who very often fired for some considerable time at places where there was not a single Russian soldier. However, they so thoroughly searched out the position with fire that the Russians were unable to show themselves, and their infantry was able to advance in comparative safety for a considerable distance. The Japanese artillery was not satisfied with a distribution of fire in width, but also distributed it in depth, and the Russian reserve and supports and, in the case of artillery, the horses, also suffered just as severely as the firing line and gunners serving the guns. Once fire has been opened with a view to preparing an attack or to sweeping a particular portion of a position with fire, I do not think it can be too rapid whilst it lasts, as if the fire is slow, and there are troops exposed to it, it is conceivable that they may be able to get away, whereas if it is rapid and they attempt any movement their destruction will be certain.

The supply of ammunition becomes of vital importance if such artillery tactics as sketched above are adopted, as enormous quantities will be expended. Some of the military attachés thought that the Japanese wasted ammunition, and that the results did not justify the expenditure. This view of the case, however, did not commend itself to me, as I am convinced that the comparatively small losses of the Japanese were largely due to this distribution of fire, and so long as they were able to keep up the supply the result obtained, viz., of preventing the Russians from shooting at their advancing infantry, fully justified the expenditure.

So far as I could see high-explosive shell had but little effect; it is possible that what I took for high-explosive shell was only common shell loaded with Shimose powder, but be this as it may be, it was shrapnel fire that had the real effect. Possibly the fact that the gun used by the Japanese had a shorter range by about 1,000 yards than that of the Russians may have caused the former to use shells bursting on impact at ranges at which they were unable to employ shrapnel.

The Japanese, in addition to their massed artillery, seemed to have single batteries dotted about the field, which opened fire on anything in movement and considerably annoyed the Russians even if they did not cause much damage. At Wa-fang-kou (Te-li-ssu) the ground was very dry and no movement could be made without raising clouds of dust, and, even when military attachés must have been invisible, the Japanese never failed to fire in the direction of our dust, thereby causing us a great deal of annoyance.

It seems unnecessary to insist on the value of enfilade fire; the Japanese were extremely clever at this and always seemed able to bring enfilade fire to bear on the Russians. On the 31st July, although neither side employed many guns, the Japanese, either by moving their guns or bringing up fresh ones, succeeded in enfilading the Russian artillery position.

So far as the close support of the Japanese infantry was concerned, it is very improbable that there was much changing of position, as the fire could be continued till the attacking infantry were practically into the position; this was owing to the nature of the country, the Russians always being in positions on hills.

As regards the artillery of the attack, there does not appear to have been any great difference in the tactics of the Japanese to those laid down in our drill book. The main things that struck me were that they did not spare ammunition, but covered the whole position with fire distributed in depth as well as in width; that they had batteries dotted about whose rôle appeared to be to fire at everything in movement in rear of the position and especially on the flanks, with a view, no doubt, of preventing reinforcements coming up or of stopping a concentration for a counter-stroke; that they seemed to pay just as much, if not more attention, to destroying supports and artillery horses as to

destroying the actual firing line and gunners serving the guns; that they always tried, and generally with good results, to take up artillery positions from which they could use enfilade fire.

That shrapnel fire is the most effective I had repeated ocular demonstration, though it cannot be denied that some common shell may be useful for very long ranges at which shrapnel cannot be used, owing to the fuze not being constructed for such long distances; but the effect of such common shell will be mainly moral.

The Defence.—Here at the very outset we meet with the difficulty that if all the guns be distributed at the commencement of the action it may be found impossible to move them to the decisive point, when this has been determined, whereas if guns are kept in reserve the benefit of their fire is lost. The Russians always kept large numbers of guns in reserve; the result was that they were beaten in detail, and their reserve artillery only came into action to cover their retreat and was unable to have any effect on the result.

On the defensive it appears therefore that the guns should be kept well up, if I may make use of the expression, in a position of readiness, from which they will be able to move rapidly to the decisive point, when this has been finally ascertained. In such a position of readiness they can be quickly moved to take part in any general counter-stroke that may be decided on, but this position must be carefully selected, otherwise the guns may arrive too late. Flanks appear to be very suitable positions on which to mass guns, as there will nearly always be an effort to get round a flank unless it rests on some naturally impassable obstacle; moreover a counter-attack will most usually take place from a flank. Still, in extended positions there must be guns massed near the centre. Guns in a position of readiness must be well concealed and should avoid all movement until they are being actually pushed up into the fighting line, when they must move with the greatest rapidity and on as broad a front as possible. When once in action, it appears a mistake to carry on a duel to the bitter end. In the event of the enemy establishing a superiority of fire it is much better to withdraw the gunners under cover and leave the guns standing, as shrapnel fire will not do the actual material much harm,* the gunners can come up and re-man the guns when the infantry attack has developed; at this period the hostile guns should, in theory, be left alone and every effort made to destroy the infantry; but in practice this will seldom be done owing to the tendency of all troops to fire at those who are firing at them.

The Japanese were most skilful in ceasing fire and withdrawing their gunners, leaving their guns standing if there was any serious risk of losing many horses by attempting to remove them. When in position, the horses and limbers should be well

* This statement must be taken with certain reservations, see Section 8 (viii.) Artillery, page 274.—J. M. H.

away, fully 300 yards to a flank and not in rear of the guns; I would prefer 500 yards if the country is at all easy, for cover from view gives no cover from fire, and a clever adversary always searches the reverse slopes in the hopes of destroying the horses.

That smokeless powder is a vital necessity for artillery I think there can be no question; the Russians, by not using smokeless powder, always revealed the position of their guns, whereas it was almost impossible to locate the Japanese guns. After the action of the 31st July the artillery general of the Xth Army Corps told me that he had never once during the day really located the Japanese guns, and I was able to confirm this from my observations, as I was 1,000 yards nearer the Japanese guns than the Russian artillery position, and I only saw one shell fall anywhere near their batteries.

Indirect laying seems to me to be even more important for the defence than for the attack, for the attack, as has been assumed, will have concentrated a superior number of guns opposite that portion of the enemy's position selected for penetration, and the inferior artillery of the defence can only hope to compete with the hostile guns if its position be difficult to locate, which will more probably be the case if it is using indirect laying. The Russians certainly recognized this and always endeavoured to use indirect laying, though of course I could not gauge the results.

The remarks already made as to simultaneous opening of fire, when once the direction of the real attack has been ascertained, refer equally to the defence as to the attack. In this respect the procedure of the Russians was most indifferent; they brought up their artillery by single batteries and were beaten in detail.

In selecting positions for guns, background is most important, for guns, which otherwise would be distinctly visible, will often be almost invisible in a position with a suitable background. The state of the atmosphere must be taken into consideration in this respect, on a clear day a background may show up guns which would help to conceal them on a dull one.

Concealment is often of more importance than a good position as regards field of fire, for difficulty of ranging is an important factor in any artillery fight.

With the reservation that it is unwise to put all the artillery into action until the direction of the main attack has been ascertained, it appears that keeping guns in reserve is a fatal error, and one of which the Russians were always guilty.

General.—In both attack and defence, mobility is a factor that must not be overlooked, and there can be no doubt that much of the success of the Japanese has been due to the fact that they had a large number of mountain guns which they were able to bring into action in places where the heavy, though more powerful and accurate, Russian field guns, could not be employed.

Correct observation of fire is most important, especially when indirect laying is employed, and it seems very necessary that some system of field telephones should be employed to link up the batteries, in the main positions at least, with their observing stations; the Russians had nothing of this sort, and their observation of fire was most faulty.

Position artillery is a very important element in a modern battle and, other things equal, the side which is best equipped in this respect will probably win. For in the attack, if a position is well fortified and good head-cover is provided, field artillery will not be able to stop the defending infantry from firing; and on the defence, the longer ranges and heavier projectiles will prevent the attacking artillery from establishing that superiority of fire which is so absolutely necessary before launching the infantry to the attack.

To sum up, the attack to be successful must concentrate a superiority of fire against the point selected for the assault; fire should be opened simultaneously from all guns which have been concentrated for this purpose, and if possible it should partake of the nature of a surprise and be in enfilade; concealment, either by means of selection of suitable backgrounds, or by employing indirect laying, is an important factor towards success; in this respect not to use smokeless powder is a criminal neglect of first principles.

When selecting an artillery position, the tendency of the spade to throw up dust before the gun is properly anchored, *i.e.*, until two or three rounds have been fired, must not be lost sight of, consequently as regards concealment of guns in action, other things being equal, a damp surface is preferable to a dry one, provided, of course, that it is not too damp to hamper movement when changes of position become necessary.

Single batteries, dotted about for the purpose of firing at fleeting targets, worry the enemy, and often produce much more effect than their numbers would lead one to expect, but concentration of fire must not be sacrificed to this object. Mobility is a vital necessity, and consequently the topography of the theatre of operations should be studied in advance with a view to ensuring that the guns sent to it should possess the requisite mobility.

Guns of position are necessary with every field army, for attacks will often have to be made against carefully prepared positions, where ample head-cover has been provided. That previous arrangements for a rapid supply of ammunition must be made, and that a large reserve must be available, is obvious.

Cavalry.

The country in which all the operations that I saw were carried on, was unsuited to the action of cavalry. In spite of the large number of mounted troops the Russians had at their disposal, I had practically no opportunity of forming any opinion on the subject of cavalry tactics.

So far as reconnaissance was concerned, the Russian cavalry, with the exception of the Primorsk Dragoons and Frontier Guards, was most indifferent, but from what I saw I am convinced that nowadays large patrols cannot obtain good information. The only good intelligence brought in was received from very small patrols, which penetrated the Japanese outpost line by night, remained hidden in some good position during the day, and were thus able to glean a certain amount of valuable information.

For offensive purposes the Russian cavalry was practically useless; there were no large cavalry combats, the only purely cavalry combat being near Wa-fang-kou, at the end of May, when two squadrons charged one, which they enveloped and destroyed. This charge is interesting from the fact that the Russians were armed with lances and the Japanese with swords; the Japanese tried firing from the saddle as they charged, which was absolutely without effect.

Cavalry was of little or no use to the defence, as it was never able to charge and thus check an advance. At Wa-fan-kou (Te-li-ssu) I was with the cavalry division which had been entrusted with the defence of the Russian right, and its action was absolutely futile. Whenever it moved it was attacked by Japanese shrapnel fire and was unable to do anything. The Russian cavalry had no machine guns, and, certainly, in my experience they were badly needed, as they would have supplied a much needed fire element, the bad ground completely prevented the horse artillery battery from coming into action at the right time, for by the time it was unlimbered the favourable moment had passed. The fire action of cavalry, to my way of thinking, is liable to be much over-estimated, for from the necessity of the case so many men have to be left as horseholders that two companies of infantry are of more value than a whole regiment of cavalry 600 strong; moreover, cavalry is always nervous about its led horses.

When making this assertion I do not wish to convey the impression that cavalry fire action is altogether useless, for this is far from being the case. When cavalry acts alone occasions may often arise when, owing to the rapidity of fire which is possible with magazine rifles and smokeless powder, a small body by employing rapid fire may completely deceive the enemy and convey an impression of strength quite out of proportion to its real numbers.

If, then, cavalry acting alone be well posted and have its horses well concealed, it may often happen that by using rapid fire it will completely mislead the enemy as to its real strength and compel him to deploy a comparatively large force before advancing to the attack of what, in reality, is only a small body of mounted men; this can then quietly mount and ride away, having gained much valuable information as to the strength and composition of the hostile forces. This is especially true if the troops who first receive the fire of the dismounted horsemen are

themselves cavalry, which will usually be the case; for cavalry, when met by rifle fire from what appears to be a strong detachment, will almost always await the arrival of infantry before attacking, unless it is in overwhelming numbers; then a combined fire and shock attack may be made.

The Russians often stopped very much stronger detachments of Japanese cavalry in this way, and I have no doubt that the Japanese repeatedly employed the same tactics.

This semblance of strength can be strengthened if cavalry has machine guns for the purpose of supplementing the fire of its dismounted men, for owing to their greater mobility machine guns can follow cavalry when horse artillery guns have to be left behind.

When considering the action of dismounted cavalry it seems to me that too much stress cannot be laid on the question of the fire-arm with which it is provided; to my way of thinking, it should be identical with the infantry arm, so that the enemy may be unable to find out that he has to do with cavalry alone, as he might do if cavalry be armed with a rifle different to that of the infantry.

Thus cavalry fire action can be usefully employed by small bodies when acting on the defensive; but for the attack to employ dismounted cavalry seems to be a waste of a valuable arm, which can only attain success by being employed in numbers out of all proportion to the results to be attained.

The Japanese, who in comparison with the Russians were weak in this arm, always closely supported their cavalry with infantry, and the Russian cavalry when it drove in the Japanese horsemen was invariably stopped by infantry.

A point in connection with cavalry which was brought home to me by unpleasant personal experience is that cavalry when in motion raises a great deal of dust, and draws the attention of the hostile guns, which, especially in difficult country, it is very hard to evade.

Although there were no instances in the campaign, so far as I saw it, of cavalry action on the battlefield, I am far from thinking that the rôle of cavalry on the battlefield, in favourable country, has passed away.

I could not help speculating upon what would have happened to the Russian infantry after a hard day's fight or when retreating, with their cartridges nearly exhausted, worn out with fatigue and want of food, if a well-handled body of hostile cavalry had suddenly appeared about dusk and charged resolutely home.

The unsuitability of the country and the weakness of the Japanese in cavalry must have often saved Russian retirements from degenerating into routs.

So far as raids are concerned the Russians accomplished nothing; the only one carried out being into Korea against Anju, after the battle of the Ya-lu, when, in spite of there being only a very small detachment of Japanese in the place, the

Russians were easily driven off. The Russians attributed this absence of raids to the unsuitability of the country, which rendered the rapid movements of large bodies of cavalry almost impossible.

The action of horse artillery with cavalry was purely defensive; the former never had any opportunities of preparing any cavalry attack, though it often rendered a good account of itself and caused the Japanese considerable loss, owing to the fact of its being well in advance of the rest of the army and so being able to act unexpectedly.

To sum up, cavalry is of very little use for defensive purposes, its fire action, unless supplemented by machine guns, not being sufficient to enable it to fight with infantry, and even if it gets a chance of charging, it will not effect more than to check an advance temporarily. Occasions may, however, arise when small parties of cavalry acting alone, may by taking advantage of the rapidity of fire possible with the magazine rifle, so mislead and mystify the enemy that results out of all proportion to their numbers may be obtained.

So far as the lance is concerned, the only time it met the sword in a charge it proved its superiority, though since the Russians frequently discarded their lances, they seemed to think that when cavalry must rely mainly on fire action they are only an unnecessary weight. Cavalry on the battlefield, given suitable ground, may still have great effect at the end of a hard day's fighting against fatigued and famished infantry.

Owing to the long range of modern artillery and to the amount of dust raised by the movement of large bodies of cavalry, this arm should avoid movement in masses except for the purpose of attacking.

Its position on the actual battlefield should, no doubt, be well away on the flanks, where, if its army is on the defensive, it will be able to give early information of any turning movement, and check any effort on the part of the cavalry of the other side to get round a flank and so find out what is going on in rear of the army; if its army is attacking its rôle will be to do the very things the cavalry of the defence is endeavouring to prevent. At Wa-fang-kou (Te-li-ssu) it struck me that the Russian cavalry division would have been far more useful had it been sent much further to the west than it was. The importance of having mounted men with practically all units was fully appreciated by the Russians, for nearly all commanders, and very often even company commanders, had a few mounted orderlies.

Infantry.

The Defence.—It seems to me that the division of the first line of the defence into firing line, supports, and reserves is a mistake. The front line should be held as thickly as possible, the number of men extended being only limited by considerations of the free and comfortable use of the rifle. Supports

are worse than useless, for if they are posted near enough to be of any use they will only catch the bullets that miss the front line; moreover, the hostile artillery will have a greater chance of killing, as it will have a deep as well as a wide target. For the same reasons I am against reserves. Troops should be divided for defence into a first or firing line, and general reserves in rear of the flanks; if the position is extended these should be placed in conveniently situated central positions.

If the country is very hilly, and there is any prospect of the firing line having to retire, reserves posted in rear of the crest which the firing line occupies are worse than useless; they should be posted in rear of the next crest, and when the firing lines retire the reserves should line it, and with their fire prevent the enemy from occupying the crest just evacuated.

While the hostile artillery is bombarding the firing line, it seems inadvisable for the troops forming it to expose themselves by endeavouring to fire unless good head-cover has been provided; but they should take advantage of cover and endeavour to avoid casualties, only returning to their position when the attacking infantry is so near that the attacking guns have to cease fire for fear of hitting their own infantry.

In this connection shallow trenches against shrapnel fire are useless; they should be narrow and deep, and should have no parapet, the earth being thrown to the rear or scattered about, as a high parapet only gives the attacking guns something at which to aim.

All movement within a position is dangerous, as dust is raised if troops move about, and the hostile guns will fire at the dust and so cause considerable loss to the defence.

The general reserve should be used for counter-strokes, which should be carried out in strength, either against a portion of the troops making the containing attacks or against the main attack just before the hostile infantry is about to make its final rush, for then the hostile guns cannot fire for fear of hitting friends as well as foes.

The object of all tactics is to establish superiority of fire, consequently any troops which are themselves under fire without being able to return it are wasted, and suffer quite unnecessary losses. It follows, therefore, that the general reserve should be well away from the front line, so as to avoid the hostile artillery fire; but they should be kept massed, so as to be able to take immediate advantage of any favourable opportunities. Hence, positions can now be held much more thinly than was formerly the case, since firing lines and the general reserve now suffice as compared with the several lines formerly advocated. The longer the line the more reserves will be required, but at the same time the more difficult it will be for the enemy to envelop a flank, unless he is in vastly superior numbers.

As a defending army will never win a battle by merely preventing the enemy from capturing its position, it follows that the counter-stroke is the real weapon of the defence. The

longer the line, provided it is thickly held in front, the more opportunities there will be for counter-strokes, for the attack will be under the necessity of weakening the troops feinting against the front, in order to have sufficient numbers for its great turning movements. If the attack relies upon a frontal attack to pierce the line of the defence, the rest of the attacking line must of necessity, assuming fairly equal numbers, be weakly held, and being without the assistance of defensive works it may very possibly be pierced and rolled up by a vigorous counter-stroke, while the attacking general is still preparing his main effort.

All this seems to prove my contention that supports and local reserves are waste of men, and that all men available after posting a strong firing line should be massed under suitable cover as general reserves.

The larger the force the more difficult it is to set in motion and the longer it takes to reach its objective, consequently the nearer the firing line and the more massed these general reserves are the better; local conditions must be studied before determining where these general reserves should be posted, for no two positions can have the same features. All that can be said is that they should not be so close to the firing line as to be liable to be hit by the enemy's artillery, and that movement so far as possible should be avoided.

If, after deploying the firing line, there are more men available than the general considers necessary for these large reserves they should be employed for prolonging the firing line, in preference to placing them close up to it as supports and local reserves.

The tactics for the defence sketched above are for an army which is not disproportionately inferior in numbers to the attack, both sides being armed and equipped in accordance with modern ideas.

On the 31st July the action near Liu-chia-ling,* certainly on the Russian left where I was, was mainly an infantry combat, and the Russians, who were formed up with supports and reserves in rear of their firing line, suffered very little from the Japanese artillery, which was engaged for the most part with the Russian guns. The troops were well in hand and available for local counter-strokes, of which, however, only one was attempted; it attained the desired object, though in the end it was beaten off.

With small forces the reserves should be on the flanks, where they can be more readily employed for counter-strokes and are available to repulse turning movements.

In hilly country, reserves should, as already mentioned, be behind a second crest, otherwise, if the enemy force the firing line to evacuate the first crest, they are likely to be carried away with it in its retirement, whereas in rear of a second

* About 30 miles south-east of Liao-yang.

crest they can open fire on the position evacuated by the firing line.

The Attack.—Taking first the case of a large force properly equipped with modern artillery.

The attack having the initiative fixes on the place or places where the main attack is to take place; to conceal its intention from the defence as long as possible is of vital importance, therefore it will attack all along the line in order to keep the enemy in ignorance of its real intention.

In this connection it may not be out of place to insist upon the fact that marching columns raise clouds of dust and may reveal the whole plan, especially when wide turning movements are being carried out. At Wa-fang-kou, although I could not see the Japanese column turning the Russian right, I saw its dust, and could not understand why the Russian commander did not take steps to meet it by withdrawing some troops from his left where he had massed his main strength.

The attack may dangerously weaken its containing force, especially in guns, of which it will place a large number in action against the point selected for the decisive attack. It is therefore necessary that the infantry making the secondary attacks should prepare some positions for defence so as to enable it to withstand successfully the counter-attacks which the defence may be expected to make. This precaution must not be omitted, for the secondary attacks must simulate real attacks, otherwise the defence will see through them and withdraw troops, or attack them in force. Then, as has been assumed, being only weak, and unsupported by strong artillery, they may very easily be crushed unless the troops making these attacks have some defensive positions prepared, on which they can rally and so prevent the line from being pierced and rolled up in disorder.

For these containing attacks, troops should be widely extended, with local reserves to stop counter-strokes. These local reserves should prepare the positions destined for defence and rallying points in case of strong counter-strokes by the defence.

The main attack, whether against the front or flank of the enemy's position, will really partake of the nature of a frontal attack, for the defence will have reserves massed on the flanks; these it will deploy to meet turning movements, which will then become frontal. Other things being equal, a flank appears the best place to attack; if it be attacked and turned simultaneously, for a certain amount of enfilade fire will be possible. But the defence will, from the nature of the case, present a more or less acute angle to the attack, the apex of which will be weak.

This was the general plan of attack of the Japanese at Wa-fang-kou (Te-li-ssu); they attacked the Russian right in front and flank, under cover of a strong artillery fire, whilst

holding their own right only weakly, and sent a strong turning force right round the Russian right in order to prevent the reserves from being brought up to prolong the flank.

As to the actual formations of the infantry which is to carry out the main attack, I am inclined to think that the closer they are the better, provided the attacking artillery is well handled and has been concentrated in sufficient force opposite the spot selected for attack. If the artillery be well handled, the infantry will be able to advance under cover of its fire practically unharmed, for the infantry of the defence will have to take cover to avoid the shrapnel fire of the attacking guns until they cease fire for fear of hitting their own infantry, when the infantry fire fight will begin. It follows, therefore, that the stronger the infantry is which commences the fire fight the more likely it is to obtain the mastery. The late Colonel G. F. R. Henderson always taught that cover by fire was superior to cover by ground, and from what I have seen of modern artillery, I am convinced he was right.

The denser the formation of infantry, when launched to the attack, the better, providing the attacking guns can keep down the fire of the defence until they have to cease fire for fear of hitting their own infantry. In ordinary country it seems hardly too much to expect that a powerful and well-handled artillery will be able to continue firing till the infantry has arrived within 500 yards of the position; in hilly country it will probably be able to continue firing much longer. When the infantry has arrived at such a distance it will have a much better chance of breaking into the position if its front line is strong and dense, and not weak and widely extended.

Moral effect counts for a great deal in war, consequently the infantry of the defence, whose nerves may be assumed to have suffered considerably from the artillery bombardment, will be much more likely to shoot badly and waver if it sees a large number of the enemy quite close up than if it sees in front of it only thin and extended lines.

Or again, assume that the attacking infantry is checked at 600 yards from the position: if it is in thin extended lines how can it possibly establish superiority of fire with the small numbers available, and how is it to be reinforced by the succeeding waves of thin lines which, being exposed to view, will present a good mark to the defence? It seems, therefore, that infantry, so long as it is advancing under cover of a well-served and superior artillery, should advance in close order, in which formation it will be able to advance with comparatively insignificant losses to within 600 yards of the hostile position. The aim of all infantry offensive tactics should therefore be to push the largest possible force to the front under cover of its own artillery fire, in order to be as strong as possible when its own guns have to cease fire.

If there is a good system of communication between infantry and artillery, the artillery can warn its infantry that it is about

to cease firing; the latter should then prepare some cover or take post under natural cover, beyond which the further advance into the position will depend on circumstances. If the hostile position is well fortified and head-cover has been provided infantry will never get to within 600 yards of the position in any close formation; but be that as it may, infantry, owing to the immense power of modern artillery, can approach in close order much nearer than is thought.

When the infantry has been checked and has taken up some sort of fire position, the further advance may of necessity have to be made in thin lines which will only get forward very slowly, and no real progress will be made until the attacking guns can find a position from which they can cover the further advance. If this is impossible, the final advance will be very slow and laborious, and partake very much of the nature of siege operations, or have to be undertaken at night. One thing is certain: if the artillery cannot enable the attacking infantry to get nearer to the hostile position than 600 yards, the position can be carried only at very heavy cost; or the attack may fail. In any case I am convinced that until the artillery is forced to cease fire the attacking infantry should advance in fairly close order; it should not move in lines of widely extended skirmishers, for when the infantry opens fire it should pour the greatest possible volume of fire into the position, and this can be done best by a thick line.

In proof of the contentions outlined above one has only to glance at the casualties of the Japanese, who were invariably the attackers; at Nan Shan and Liao-yang only had they heavier casualties than the Russians, elsewhere they always suffered less. Both Nan Shan and Liao-yang were to all intents and purposes field fortresses, yet they were taken by frontal attacks with vastly fewer casualties than one had been led to expect by writers on tactics, who had omitted to take into consideration the immense power of the concentrated fire of modern artillery properly handled, of which the attack can always concentrate a superior force at the point to be assaulted.

The war in South Africa has often been quoted in support of the tactics of successive lines of widely extended men. In this connection I give the views of an attaché with the Boers in South Africa. He said that British shrapnel fire was so well directed that whilst the guns were actually firing the Boers were unable to fire at our advancing infantry, and it was only when the guns ceased fire that they lined their positions and opened fire on the infantry. If the infantry had been in thicker formation their fire effect would have been greater, and it is quite conceivable that the front line would have established such superiority of fire that the attack would have succeeded, instead of often coming to a standstill, after its artillery had ceased fire.

In the absence of a superior artillery, or when the forces engaged are so small that it is impossible to mass a superior

number of guns against any particular portion of the position, cover by fire is not so readily attained, and it is very probable that one day will be insufficient to take a position held by a resolute enemy. The infantry will have to advance in thin lines and will be checked; it must then entrench itself at night and reinforce the checked front line, so that next day a greater volume of fire can be brought to bear on the defence: a further advance, under cover of infantry fire in this case, may then be possible.

I do not think any useful object is served by forming infantry into firing lines, supports, and reserves. Local reserves may be usefully employed in preparing defensive positions as rallying points in case of strong counter-strokes on the part of the defence; but supports seem out of place as affording an additional target to the enemy.

For the main attack, close formations may often be employed till its own guns have to cease fire, then successive waves may be usefully employed, though they must not be too thin, otherwise they will have no fire effect when checked; the formation of the final infantry advance, after its own guns have ceased fire, may be in thick waves, with a reserve held back at the spot reached when its own guns ceased fire; this assists the final advance by fire or reinforces the checked firing line by night, as it seems quite impossible to reinforce at such close ranges by daylight.

Since all modern battles will apparently last more than one day, it is of vital importance that the attacking infantry should have at least one day's food on the person; this question of food is almost as important as that of ammunition. For the same reason, as most of the fighting takes place in the heat of the day and thirst is almost a worse enemy than hunger, some form of concentrated thirst-quenching tabloids is necessary; the discovery of such tabloids should not be beyond chemical skill, and, if once discovered, would greatly lessen the hardships which the infantry soldier has to undergo when engaged in a modern battle.

One other point struck me in Manchuria, viz., the effect obtained by small bodies, widely extended, employing a really rapid fire; even if they did very little execution they completely deceived the enemy, stopped his advance, and often forced him to deploy large forces. It will be interesting to hear whether such tactics were ever employed by the Japanese forces. We often heard accounts of large Japanese forces in position which expended great quantities of ammunition and practically did no execution, though the moral effect of their fire stopped the Russians and made them retire or deploy. I often thought that possibly on these occasions the Japanese really had only small numbers widely extended, who, in order to hide their numbers, fired so rapidly that they were unable to take proper aim. When General Rennenkampf was wounded, the officers with him said his force was surprised in close order by at least two Japanese battalions, who made such bad shooting that only a few men, mostly mounted staff officers, were hit; their fire, however,

compelled his whole force to retire. It struck me at the time that possibly the Russians largely over-estimated the Japanese, who were really only a small force using rapid, though badly-aimed fire.

Since fire is the decisive element in modern war, all tactics resolve themselves into the problem of bringing the greatest amount of fire to bear on the enemy, whilst at the same time obtaining the greatest immunity from his fire. To this end the greatest possible advantage should be taken of the tremendous fire action of artillery, and the action of the other arms should be closely combined with that of the artillery. The actual tactics to be adopted by the other arms depend largely on how local conditions affect the action of artillery; it is consequently impossible to lay down any standard form of attack or defence; the great cardinal principles, however, are combination and co-operation, bearing in mind that artillery is nowadays the decisive arm.

In conclusion I would like to say that the results I have arrived at are based on two actions only, those of Te-li-ssu (Wa-fang-kou), and of the 31st July 1904, near Liu-chia-ling, and may have to be considerably modified by experience gained at Liao-yang and on the Sha Ho.

(8 iv.) Staff Organization.

Army Staff.—The organization of the Staff of the Manchurian Army was practically the same as that laid down in the text-books on the subject. The diagram which follows shows the general distribution of duties. From this it will be seen that there was an extra staff officer, called the Inspector of Fortifications. There was also a General of Communications who, in addition to his own duties as the General of Communications of one of the Armies forming the active army, looked after railway matters, but his department was not styled the Railway Department, but the Department of Military Communications. The Medical Staff arrangements, too, were slightly modified. The Medical Administration will be fully treated of under the heading "Medical." The Quartermaster-General was to the Chief of the Staff what the latter was to the Commander-in-Chief; he also had a good deal to do with the General of Communications, who was not solely under the Chief of the Staff. There was also a Lieutenant-General, attached to the Staff, with the designation General for Special Duties, whose duty it was to replace the Commander-in-Chief when he was absent from Head-Quarters.

In addition to his purely military staff, the Commander-in-Chief had a representative of the Ministry of Foreign Affairs attached to his staff as the official medium between himself and the Chinese civil authorities.

Commander-in-Chief, General Kuropatkin.	Chief of the Staff, Lieut.-General Sakharov.	Quartermaster-General, Major-General Kharkevich.	Distribution and movements. Intelligence. Topography. Censorship. Military Attachés, Captain Count Ignatyev.
		Adjutant-General, Major-General Blagovyeshchenski.	Chief Sanitary Inspector of the Army, Lieut.-General Trepov. Plenipotentiary of the Red Cross Society, Councillor Alexandrovski. Judge - Advocate - General's Department. Chaplains' Department. Commandant, Army Head-Quarters, Colonel Rozalion Soshalski.
		General of Communications, Major-General Zabyelin.	Railway Department. Lines of Communication Department. Post and Telegraph Department. Transport Department.
		Chancery of the Staff of the Army, Colonel Danielov.	
		Chief Intendant, Major-General Hubert.	
		Chief Paymaster.	
		Chief Controller.	
		Inspector of Artillery, Lieut.-General Michaiiev.	
		Inspector of Engineers, Lieut.-General Alexandrov.	
		Inspector of Fortifications, Major-General Velichko.	

The Manchurian Army was not divided into separate Armies, though about the time of my departure (middle of August) an Eastern Army was being formed under the command of General Bilderling, but no staff had been formed before I left. This army was to consist of the Xth and XVIIth European Army Corps, the cavalry detachment of General Rennenkampf, and the Eastern Detachment.

The fact that the Commander-in Chief of the Manchurian Army was not really independent complicated the staff working, as the Viceroy was his superior and frequently interfered. The Viceroy had a Field Staff on the same lines as that of General Kuropatkin, comprising a Chief of the Staff, an Adjutant-General, a Quartermaster-General, &c., and it was, for an outsider, almost impossible to ascertain where the staff work of the Viceroy's Field Staff ended and where that of the Staff of the Commander-in-Chief began.

Army Corps Staff.—The staffs of the army corps varied very considerably; the only army corps head-quarters staff to which I was attached, the Xth European Army Corps, was composed as follows:—

- One lieutenant-general commanding.
- Two personal aides-de-camp.
- Two aides-de-camp.
- One major-general, chief of the staff.
- Three General Staff officers (a lieutenant-colonel, a captain, and a staff captain).
- Two senior adjutants, a lieutenant-colonel, and a captain, the captain being an officer of the General Staff.
- Two orderly officers.
- One commandant, head-quarters (lieutenant-colonel).
- One corps surgeon.
- One corps veterinary officer.
- One commander of artillery (major-general).
- Two artillery staff officers and one secretary.
- One corps intendant.
- One assessor and three secretaries.

Divisional Staff.—The divisional staffs varied in the same way as the army corps staffs; the only divisional staff I can speak of from personal knowledge was that of the Siberian Cossack Division, which consisted of—

- One lieutenant-general commanding.
- One colonel, chief of the staff.
- One captain of the General Staff.
- One divisional controller (lieutenant-colonel).
- Three aides-de-camp (at least).

The staff of Major-General Samsonov, commanding a cavalry brigade, consisted of one captain of the General Staff and two aides-de-camp.

General.—The distribution of duties amongst the General Staff officers, so far as I could ascertain, was very elastic, and

depended entirely on the chief of the staff, who distributed the work amongst the various officers working under him in accordance with his estimate of their capacities.

Every general officer was at liberty to supplement his staff by as many orderly officers as he thought fit from the regimental officers under his command. The general impression left on my mind was that the army as a whole had far too many generals and was much overstaffed, which led to an enormous amount of clerical work to the detriment of real staff work. The generals for the most part struck me as being too old. The staff officers as a whole were lacking in initiative. Everything was excellent on paper, but the whole system seemed to break down under the stress of active service. In one branch of staff work the Russian excels, and that is in the making of maps; they all, for the most part, were rapid and, so far as one could judge, accurate field sketchers.

Transmission of Orders.—The orders of the Viceroy and of the Commander-in-Chief were printed and then issued to the troops by orderlies or the field post. Army corps orders were typed in the 1st Siberian and Xth European Army Corps, and circulated by orderlies. The divisional orders of Lieutenant-General Simonov, commanding the Siberian Cossack Division, were reproduced by the cyclostyle and issued by means of orderlies. Major-General Samsonov generally gave verbal orders to his regimental commanders.

On the actual battlefield, orders were sent either by means of the field telegraph or telephone, or by orderlies: signalling was generally conspicuous by its absence.

In prepared positions the field telegraph was largely used; for example, at Liao-yang all the forts and main positions were joined up by telephone and telegraph. General Stakelberg used the field telegraph to a certain extent at Wa-fang-kou. But it may be said that orders were sent for the most part by means of mounted orderlies; these orderlies were neither picked nor were they a specially trained body of men, but were ordinary troopers, generally Cossacks. So far as I could ascertain, important orders were not sent in duplicate by different messengers, nor were officers employed for this purpose. At Wa-fang-kou the left flank of the Russian army might very easily have been cut off, owing to the orderly carrying the order to retire taking two hours to find the general.

The original orders are signed by the general commanding, but are issued to the troops endorsed—"signed G.O.C." and signed "true copy—Chief of the Staff"

Intelligence.—The Commander-in-Chief was not very well served by his Intelligence Department.

The main sources of obtaining information as to the movements, intention and strength of the enemy were—

- (1.) Reports of Chinese spies.
- (2.) Reports of reconnoitring detachments.

(3.) Extracts from the press of the world telegraphed from St. Petersburg.

Most reliance was placed in the first of these methods; the Russians believed that the sympathies of the Chinese inhabitants were with them, and that the great bulk of the population was hostile to the Japanese. The Chinese reports were implicitly believed. Many of the Chinese employed by the Russians were actually in the employment of the Japanese, and others, if not actually so employed, secretly sympathized with the latter; of the remainder, many were too ignorant to give information of any real military value, or followed the true oriental custom of telling their employers what they thought would please them. For example, the Chinese informants always largely exaggerated the Japanese losses after an engagement, and erred in the same direction in their estimates of the hostile force engaged.

Information brought in by reconnoitring patrols was generally of limited value, as the reconnaissance work of the Russian cavalry was generally not good. On the 8th June a Cossack reconnoitring patrol sent in word that the Japanese were advancing in force against the Russian outpost line south of Wa-fang-tien; the whole Russian force was turned out and the outposts were strongly reinforced, but so far from the Japanese advancing to the attack, not a shot was fired after the receipt of the report. On the 30th July a strong reconnaissance of Daghestan Cavalry was sent out by the General Officer commanding the Xth Army Corps in the direction of Hsi-ho-yen; the detachment returned and reported that there were no Japanese within miles. Relying on their report, the Tambov Regiment was left unsupported on the right bank of the River Hsi, beyond the Yü-shu-ling-tzu Pass, and was surprised in its bivouac at 4 a.m. on the 31st July by the enemy, who forced the Xth Army Corps to retire some twelve miles in the direction of An-ping after an engagement which lasted all day.

As a result of the defective reconnaissance work of the cavalry, the generals commanding units were absolutely in the dark as to the real strength or position of the Japanese. Many other factors militated against cavalry reconnaissance work, which will be fully treated of later. The best and most reliable reports were brought in by the mounted scout detachments (*Okhotniki*) of the East Siberian Rifle regiments, the Frontier Guards and the Primorsk Dragoons.

The last of the means of obtaining information, viz., extracts from the press telegraphed from St. Petersburg, was not of much value owing to the news being several days old and also to the absolute secrecy maintained by the Japanese as to their movements.

(8 v.) Higher Tactical Units.

Infantry.—The only purely infantry unit was the brigade, consisting in all cases of two regiments, under the command of a major-general, with one staff officer and one or more orderly officers. The strength of a brigade varied according to the number of battalions in the regiment. Brigades of East Siberian rifles consisted of six battalions, East Siberian rifle regiments having only three battalions; all other brigades had eight battalions, being composed of four-battalion regiments. An infantry division contained two brigades of infantry, as well as a proportion of other troops, i.e., a brigade of artillery, an artillery park or ammunition column, and departmental troops, medical, supply and transport. Normally an infantry division should have a company of engineers, but in Manchuria the engineers were allotted on no fixed rule, though it may be taken that there were some engineers with every infantry division. The medical units with an infantry division were one divisional and two field mobile hospitals; these three formed part of the field division, and had their own transport. In addition there were two mobile field hospitals, which though belonging to the division were more or less independent of it, being at the disposal of the Chief Sanitary Inspector of the Army. The supply columns of the divisions mobilized in Europe were as stated in the textbooks, but those of the Asiatic ones (Siberian and East Siberian rifle divisions), were organized during the war, and varied in strength considerably.

The army corps being composed of all three arms will be dealt with separately.

Cavalry.—The cavalry was divided into brigades and divisions, but the original brigading was hardly ever adhered to; taken broadly there was no larger unit than a brigade of two regiments, for when a mounted force increased in size beyond a brigade it was generally stiffened by the addition of an infantry battalion or two. The Siberian, Trans-Baikal, and Orenburg Cossack Divisions existed as such only on paper, and were divided up as soon as they reached the theatre of operations; in the same way the troops of the Ussuri Mounted Brigade and the Trans-Baikal Cossack Brigade were never together.

There were three main cavalry forces, more or less independent, though not absolutely so; these were the mounted detachments of Lieutenant-Generals Rennenkampf, Mishchenko, and Samsonov: these detachments varied in strength from time to time. I give below the latest details I could get—

Lieut.-General Rennenkampf	- 1 battalion, 19 squadrons and 18 guns.
Lieut.-General Samsonov	- 30 squadrons and 12 guns.
Lieut.-General Mishchenko	- 28 squadrons and 16 guns.

There was also a mounted detachment under Lieut.-Colonel Madridov, originally organized to work in rear of the Japanese, in other words for raids. This force, however, really became a sort of flank guard; it consisted of 2 battalions, 16 squadrons, and 2 guns.

There was no divisional cavalry as understood in our service, but the divisional commander made use of the mounted infantry companies of the regiments under his command, and also usually begged or was given a troop or so from some cavalry regiment in his neighbourhood. The only cavalry brigades kept together as originally organized were the 2nd Siberian, 2nd Orenburg and the Ural Cossack Brigades, and the 2nd Brigade of the Trans-Baikal Cossack Division, but even these were frequently split up, squadrons being taken away from their commanders for special work.

Artillery.—The artillery was divided into brigades, divisions, and regiments. The horse artillery was divided up amongst the cavalry detachments.

The brigades of artillery varied in strength from eight to four batteries; the brigades from Europe were either of eight or six batteries, whilst the East Siberian rifle artillery brigades consisted of four batteries. The divisions were either the sub-units of the European brigades or the units belonging to the 7th and 8th East Siberian Rifle Divisions, or to the 4th Siberian Army Corps, and consisted of two, three, or four batteries each. The mountain batteries, so far as I could see, were not brigaded, but were allotted to units as required. There was a howitzer regiment of four batteries from Europe, and two unbrigaded East Siberian howitzer batteries. For further details regarding the organization of the artillery, see "*Artillery.*"*

Army Corps.—The troops originally in the theatre of operations were grouped in three army corps, the 1st, 2nd, and 3rd Siberian Army Corps, formed of the East Siberian rifle divisions, artillery and cavalry, but this organization existed only on paper, and has never been adhered to; for example, the troops engaged at the Ya-lu were the 3rd Division (3rd Corps) and the 6th Division (1st Corps), whilst Lieut.-General Zasulich, who commanded, was the commandant of the 2nd Corps. Speaking generally, however, the organization of an army corps was two divisions of infantry with artillery and departmental troops, a battalion of engineers, and a proportion of cavalry, though this rule cannot be called absolute.

The 1st Siberian Army Corps had the cavalry division of Samsonov attached to it; the 4th Siberian Army Corps that of Mishchenko; the 3rd Siberian Army Corps, or Eastern Detachment, had six squadrons; and the 2nd Siberian Army Corps a cavalry brigade; the 1st European, 5th and 6th Siberian Army Corps had no cavalry allotted to them, the Xth European Army Corps had two regiments, and the XVIIth one. There was no

corps artillery as such, though the mountain batteries and howitzers arriving, with the few heavy guns in the country, were doubtless distributed to corps.

The 1st Siberian Army Corps and the Eastern Detachment, since re-named the 3rd Siberian Army Corps, had each 64 guns; the 2nd Siberian Army Corps had 86 guns; the 4th, 5th, and 6th Siberian Army Corps had each 128 guns; the 1st European had 96 guns, and the Xth and XVIIth 88 guns each.

A battalion of engineers was attached to each of the European army corps, and as there were six East Siberian sapper battalions, it seems probable that the intention was to attach one to each of the Siberian army corps.

It will be seen from the above that the army corps were of varying sizes, and were in no case normal according to the Russian organization; this was due to the war having begun before the Russians were ready, and consequently they had to organize the forces actually at the front.

There was much discussion in April of cavalry raids against the Japanese lines of communication, and the forces of Lieut.-General Rennenkampf and Lieut.-Colonel Madridov were organized for this very purpose, but for one reason or other, mainly due to the unsuitability of the country, the results obtained were *nil*, and these forces were mainly used as flank guards in the hills east of Liao-yang and Mukden.

The cavalry forces of Lieut.-General Mishchenko and Lieut.-General Samsonov were used as screens to prevent the Japanese from obtaining information of what was going on, and also for reconnoitring purposes, though in this they were not very successful; in advance they formed the advanced guards, and in retreats covered the retirement, though for a long time they were always designated advanced guards.

The advanced cavalry checked the Japanese patrols from getting information of what was going on in the rear, but they themselves were just as unable to find out what the Japanese were doing.

The effort throughout was to employ the army corps as the unit, though in practice, certainly for the first few months of the war, the division was generally the unit. There was a very marked tendency to split up the artillery units and to attach a battery to a regiment, instead of working the larger artillery units as a whole.

Co-operation.—The cavalry seemed unable to work with the other arms, and one might almost say that it was never used in co-operation with infantry and artillery; this, no doubt, was largely due to the nature of the ground, but still much was due to defective training, and to the general idea which seems to prevail throughout the Russian service, that the cavalry is an arm apart. The only instance I heard of when cavalry did co-operate with the other arms was at the first battle of Wa-fang-kou, and

that was purely accidental, and the infantry were really only dismounted dragoons and Frontier Guards.

The artillery certainly had the idea of co-operation with the infantry, but the results in practice were not good ; they either spent all their energies combating the hostile guns instead of firing on the hostile infantry at close ranges or preparing the advance of their own infantry, and so allowing themselves to be effectually silenced by the enemy before the arrival of the decisive phase. The numerically superior Russian cavalry did little throughout the campaign, and the Russian artillery, though equipped with a better gun, and so far as I could see, generally as numerous as the Japanese, seemed unable to effectually support their own infantry.

(8 vi.) Infantry.

Personnel.—The individual soldier, as a rule, is a quiet, well-behaved, good-tempered, easily-led and easily-disciplined man. He seems to be always cheerful, and does not grumble when asked to endure hardships or to suffer from insufficient food. He is deeply religious, and may almost be called superstitious in this respect.

His courage is beyond suspicion, and even very heavy losses do not appear to affect his *moral*, though in this respect he does not seem to be the equal of the Russian soldier of the past. His strong point is stolid endurance rather than brilliant dash, but the traditions of the Russian Army with regard to the bayonet are deeply implanted in him, every Russian soldier being firmly convinced that the bayonet is in every respect superior to the bullet.

Taken all in all, the Russian soldier, when joining as a recruit, is second to none, though the finished article may be behind the trained soldier of other Powers.

The general physique of Russian soldiers is good; they are for the most part sturdy, robust men capable of great endurance. There is a marked difference between the European Russian and the true Siberian Russian, the latter being in every respect a bigger and stronger man. The Jews, of whom there seemed to be a considerable proportion in the Manchurian Army, were in contradistinction to the Russians, of poor physique.

So long as the weather was not tropically hot all seemed capable of bearing every sort of hardship, and were able to make long marches and to carry their heavy equipment without any difficulty, the pace, however, was undoubtedly slow. When the weather got hot, however, there was the very greatest difference between the marching powers of the European and Asiatic troops. The former were quite unable to march in the heat of the Manchurian summer, becoming rapidly knocked up and falling out in large numbers, a mile an hour without transport being a good performance for a European regiment; whereas an Asiatic one seemed to be able to march just as well in the summer as at other times. This is all the more remarkable seeing that the East Siberian rifle regiments were largely composed of men from Europe; I was told that they had fully 40 per cent. of Poles in their ranks.

This inability to endure the heat was early recognized by the Commander-in-Chief, who issued an order that no troops were to march between 10 a.m. and 4 p.m., if it could be avoided.

Speaking generally, the Asiatic troops were much more enduring than the European, a fact due no doubt to their being more accustomed to the local conditions.

As regards the question of food, the soldier, so long as he could get some tea and bread, even if very little, was able to endure great privations, but it seemed as though he was quite unable to do without these two commodities; meat food was a secondary consideration provided he had tea and bread. That the Russian soldier could starve and yet fight I saw for myself at Wa-fang-kou, where the majority were without food for two days and the cavalry without any regular rations for a week.

The discipline is distinctly good and the men seem very tractable, being most respectful in their bearing towards their officers whom they obey implicitly and for whom, no matter what their conduct may be, they never seem to lose their respect.

Their bearing towards foreign officers was quite as respectful as towards their own, and they invariably saluted them when passing.

In their dealings with the Chinese they were wonderfully patient, offences against the civil population being the exception.

The majority are illiterate, but they are by no means lacking in intelligence. I was much struck by the intelligent appreciation of the general situation shown by nearly all private soldiers with whom I talked, and the intense eagerness of the troops on their way to the seat of war for information was very remarkable.

Their training is inadequate, but this is the fault of the system and not of the individual, and is largely compensated for by the natural shrewdness and power of individual initiative displayed by the majority when in awkward situations.

The non-commissioned officers, though generally badly educated according to our idea, are well up to their work, are respected by the men, and proved themselves over and over again to be capable of taking the place of officers when required to do so.

The general training is deficient; manœuvring was apparently not practised, drill being largely of the close-order class, and nearly every drill I saw terminated in a bayonet charge. Much time was spent in teaching the men how to hold their rifles and caps for prayers.

There was a very large number of recruits in the ranks, and I often saw recruit drill going on at Liao-yang.

Soldiers were always on the look-out to supplement their pay (1s. per month) by doing odd jobs, such as acting as porters at railway stations, horse-holders, &c., and were always asking for money. When the orderlies on duty at the house in which the military attachés lived were relieved they went round asking for tips, which became a nuisance, as they were frequently changed; an orderly who held one's horse when dismounted during action or on duty with the staff had always to receive a tip.

I was very satisfied with my two soldier servants, who though illiterate were very intelligent, hardworking, honest men.

Establishments and Formations.—Briefly, a company is commanded by a captain or staff captain and consists of 3 to 4 officers, 20 non-commissioned officers, and 200 lance-corporals and privates; these are armed; in addition there are some 20 unarmed men employed as servants, dressers or drivers. Two men per company are equipped as buglers and six as stretcher bearers. Four men per company are normally trained as mounted scouts (*okhotniki*). The mounted scouts will be treated separately, as the normal establishment was not adhered to.

The details regarding transport were modified according to circumstances (see under "Transport" *).

A battalion consists of four companies and is commanded by a lieutenant-colonel, who has a subaltern officer as battalion adjutant. There is one junior surgeon per battalion, one dresser, and six rank and file employed on transport duty, as clerks, &c.

The normal strength of a battalion is, therefore, 18 or 19 officers and officials, and 981 rank and file.

A regiment consists of four battalions (an East Siberian rifle regiment of three), and is commanded by a colonel who has a regimental adjutant. There are in addition several other staff officers and officials, and some 100 rank and file, bandsmen, clerks, &c. An East Siberian rifle regiment of three battalions has a proportionately smaller number of men in the regimental head-quarters.

In addition to the normal transport there is a further number of wagons with drivers and horses which belong to the regiment, but which are attached to the divisional supply column unless the regiment is acting independently, when they join the regiment. In round numbers a four-battalion regiment numbers 4,100 of all ranks, and a three-battalion one 3,075; in addition there are in round numbers about 100 men on the strength of the regiment who are detached to the supply column.

Normally there are 16 men per battalion trained as mounted scouts (*okhotniki*) who are grouped together to form a mounted scout company. In Manchuria this organization was expanded.

Each East Siberian rifle regiment had a company of mounted scouts consisting of 2 officers and 140 rank and file. The European regiments and expanded reserve regiments had the usual 64, but an Army Order was issued in July directing that the European regiments should expand their scout companies to 100 men per regiment.

The companies of the East Siberian rifle regiments, of which I saw several, were an extremely useful body of men, being all picked for intelligence and good shooting. As scouts they were invaluable and brought in most reliable information. They were mounted on the small ponies of the country, which seemed capable of any exertion and did not require much food. When working on foot, the ponies were tied head to tail in couples,

* See page 267.

when they could do nothing beyond turn round and round each other, not more than six men out of the whole 140 being left as horse-holders. When mounted the men carried their rifles slung over the shoulder, and were supplied with a scabbard for their bayonets; they had no swords. No universal pattern of horse gear was used, the men were mounted on all kinds of saddles, and slung their kit on the saddle in any way which was convenient to them; they looked anything but smart, but they were an eminently useful body. Being accustomed to local conditions they were able to move about without any transport, and were consequently extremely mobile and could practically always subsist on the country.

Mounted scouts (*okhotniki*) wear a light-green stripe round the top of the cuff as a distinguishing mark.

The peace training, judging from a parade of two companies which was specially ordered for the military attachés, was largely confined to parade movements, though this did not seem to affect their usefulness in action or for reconnaissance. A company of these scouts, certainly, in the first month of the war, was more useful than many of the Cossack regiments.

The outside price paid for their ponies was 15*l.*, and this was only allowed owing to the prevalence of a state of war; in ordinary times the price was about 7*l.*

At the commencement of hostilities the Frontier Guard infantry consisted of 55 companies of 250 of all ranks, the number of companies was subsequently raised to 72. The Frontier Guard infantry was entirely used for the protection of the railway, which duty it carried out most efficiently. Both officers and men may be considered as being among the most intelligent and best trained of the Russian troops. Just about the time I was leaving, the Frontier Guard was about to be relieved by the Siberian Militia of its duties on the railway and to be formed into a separate body of mobile troops to operate against the Hung-hu-tzu.

The Siberian Militia (*Opolchenie*) consists of 8 divisions, each division of 12 battalions; the battalions are roughly 1,000 strong. Twenty-five of these battalions were on their way to the theatre of operations from Siberia, and were close to Irkutsk when I passed through that town at the end of August.

The men were all old soldiers, having served for the most part in the East Siberian rifle regiments; but, I should say, were untrained. However, for the work they are to be employed on, viz., railway protection, they are admirably suited.

The Siberian reserve battalion, as now mobilized, consists of 6 battalions (not of five as was formerly the case), viz., one reserve, one dépôt, and four active battalions.

Each East Siberian rifle division has a dépôt battalion at the permanent head-quarters of the division. These reserve and dépôt battalions are employed on railway protection work.

Since my return to England I have constantly seen articles in the papers to the effect that the Asiatic troops are inferior to the

European, and attributing the earlier Russian defeats to this inferiority.

These statements are quite incorrect, and I have no hesitation in saying that the East Siberian rifle regiments are superior to the European regiments.

The regiments from Europe are either active regiments of the standing army or expanded reserve regiments; in the former case there were about 50 per cent., and in the latter about 75 per cent., of reservists in the ranks; but very few reserve officers were serving in the active regiments.

The East Siberian rifle regiments had a fair sprinkling (about 40 per cent.) of reservists, owing to the fact that none were maintained at war strength, and also due to their expansion at the commencement of this year from two to three battalion regiments. The men serving in their ranks were mainly from Europe, though a large number of the reservists were Siberians; of the Europeans about 40 per cent. were Poles.

Thus the actual personnel of European and East Siberian regiments was very similar as regards number of reservists and class of men serving. However, the East Siberian rifle regiments were superior troops; they were able to stand the climate much better and were much more at home in Manchuria, no doubt due to their greater knowledge of local conditions and also to the fact that they had a fair number of men in their ranks who had been through the China campaign of 1900-01. Among the officers and non-commissioned officers this percentage was very much larger. The general difference between European and East Siberian rifle regiments was very much the same as the difference between a British regiment which has been some time in India and has already been on a frontier campaign and a new regiment out from home serving in a frontier war for the first time.

That knowledge of local conditions and acclimatization was not the only reason, for this difference may be gathered from the fact that the two brigades of the 31st and 35th Divisions, which arrived in Trans-Baikalia in July, 1903, were not appreciably better, in comparison with East Siberian rifle regiments, than the regiments which came from Europe after the outbreak of hostilities.

The real reason must therefore be found in better training, and in the fact that a considerable number of the officers and men were not new to campaigning conditions in the east. The European troops referred to above are those of the Xth and XVIIth Army Corps. I did not see the 1st European, nor the 5th and 6th (reserve), Army Corps, so cannot say if the above remarks apply to them also.

With regard to the Siberian divisions formed by expanding the three Siberian reserve brigades, the above remarks do not apply in the same way. The actual men were bigger and more robust; a large number of them had already seen service in the east, and the climate and local conditions were not so strange to them as to the European troops. But they were reserve troops,

were inadequately trained, and had had no musketry instruction, though this was largely compensated for by the fact that many of the men were trappers and good natural shots. When these troops first arrived they were lamentably short of officers; but this was gradually put to rights, and in the course of a month or so the Siberian (reserve) regiments were fully as efficient, if not more so, than the European active regiments.

Tactics.—Tactics generally have been fully treated of in another part of this report,* so that it is not necessary to do more than touch upon the purely infantry aspect of the question.

As in all the fighting which I saw the Russians were acting on the defensive, I cannot say what forms of attack the Russians would employ in the actual combat, but can only describe what I saw being practised.

Battalions sent out two companies as firing line and support, keeping the remaining two in reserve. Of the two companies sent out two sections from each were extended to about one pace interval. The extension was carried out at a very slow pace, not at the double, the supports and reserves remaining in columns of sections. There were about 200 yards between firing line and supports and 400 yards between the supports and reserve. The further advance was made at the double by sections from a flank, the advances being very long, never less than 200 yards. At a supposed distance of 2,000 yards, supports extended into line with roughly one pace between files, and the reserves into half-company columns with a pace between files. Great attention was paid to accuracy of drill, and the exercises always terminated with a very long bayonet charge; officers made no effort to take advantage of cover, but stood up behind the men who, however, were trained to take advantage of any cover existing. Distance and objective were given by officers and the men seemed to obey intelligently; I never saw non-commissioned officers giving these commands on their own initiative. In all attack or skirmishing drills which I saw, a great deal too much attention seemed to be devoted to accuracy of movement. The general tendency of all training seemed to be towards frontal attacks with the bayonet.

The Russian infantry was not without skill in the selection of positions, though a clear field of fire and command over the surrounding country was much more sought after than cover, which, owing to the effective handling of the Japanese artillery, often cost it dear. The purely infantry works thrown up by that arm on its own initiative, as opposed to works in positions carefully prepared beforehand, were the shallowest scratchings, without any signs of head-cover. There was a general tendency to occupy the topographical crest as opposed to the military crest, and the importance of flanks was not sufficiently recognized, the tendency being to assume that the Japanese would not employ enveloping attacks.

* See page 215.

As to the distribution of troops upon the front occupied, this of course varied greatly according to circumstances, but owing to the large number of men which the Russians always kept in reserve, the tendency was to occupy all positions very thickly; there were always supports in rear of the firing lines, besides local and general reserves. It is almost impossible to say the number of infantry that was employed to the mile of front occupied as differentiated from the number of troops of all three arms; at Wa-fang-kou there were roughly 30,000 infantry on the field and the front occupied was about 5 miles, which gives 6,000 infantry per mile, but some of these infantry soldiers arrived on the field after the battle had begun.

There were very few real counter-attacks, the reserves being mainly employed to cover the retirement of the advanced troops; the bayonet charges, regarding which so much has been said, were mainly employed to break through hostile forces which had got round the advanced troops. On the 31st July beyond the Yu-shu-lin-tzu Pass, I saw one purely infantry counter-attack where a Russian battalion tried to stop the Japanese advance by attacking a small body which had occupied a hill on the flank; this attack was made in irregular groups, whose action was mainly fire. The Russians occupied the hill in question and drove off the Japanese, but in their turn they were forced to evacuate the position by some excellent long-range firing on the part of the Japanese. This attack was well conceived, as the battalion advanced most of the way under cover, moving from cover to cover by rushes of about half companies. The men were fairly well extended and not bunched together. The effect, though only temporary, was considerable, and led to the deployment by the Japanese of a considerable force, which, however, did not have to attack, as the above-mentioned long-range fire served to clear the hill, and shortly afterwards the Russians re-crossed the river and retired.

I saw no purely infantry outposts, the mixed outposts I saw are fully described under "Outposts."*

Ammunition.—The quality and uniformity of the ammunition supplied seemed to leave nothing to be desired.

The soldier, when the war first began, carried 135 rounds on his person, 30 rounds in each ammunition pouch on his belt, 30 in a bandolier, 30 in a small canvas pouch slung under his left arm, and 15 more in his kit bag.

Each company had, in addition, one and a-half one-horsed small ammunition carts, or six per battalion; these carts carried 6,000 rounds each. The two-horsed carts, carrying 14,400 rounds used in Europe, were normally not employed in Manchuria as they were found too heavy, and consequently unsuited to the bad roads of the country. There were many of these carts in the country and they were no doubt used, but endeavour was made to dispense with them entirely. Thus 180 rounds per man

* See page 291.

were in regimental charge, while in addition roughly 80 rounds per rifle were carried in the ammunition column ; this was normal, but as the columns were in a state of re-organization it is impossible to state how many were actually carried. As the war went on, the number of rounds carried by the soldier was considerably increased, pockets were made in the blouse or tunic, and each soldier was furnished with 300 rounds, which he was supposed always to have on his person.

This step was taken owing to the great difficulty found in replenishing the supply of ammunition during an action, as the men soon get rid of the 135 rounds which they originally carried. I was told that after each man had 300 rounds on him there was no more difficulty, but this was before the fighting at Liaoyang and on the Sha Ho. The original idea of sending ammunition up to the troops by carriers did not work ; it was also found that the small regimental reserve of 45 rounds per rifle was quite insufficient, and the ammunition column could never be found at the critical moment, and very often if found there was no means by which wheeled transport could be pushed up to where the ammunition was required. The main depôts were at the railway stations, from which the columns were refilled, but I could get no details as to how the supply of ammunition was worked in rear, though if there was ammunition it was served out without any red-tape formalities. Whilst I was with the Russians there never seemed to be any want of small-arm ammunition.

The ammunition was in clips of five rounds each and was packed in hermetically-sealed tin boxes containing 300 rounds. The smokeless powder used is a pyroxiline preparation.

Fire discipline, &c.—I was never near enough to the Russian infantry in action to see how the actual peace fire discipline bore the stress of action. In drills, which I repeatedly saw, the actual range and object was always ordered by an officer, and the men seemed to carry out the orders intelligently and changed their sights in accordance with the orders received.

A few Suchet range-finders were supplied to infantry regiments ; these are the instruments in use in the French Army. They were not much used, but attempts were made to find the range by trial volleys or by individual shots, a method which was anything but successful. In practice at unknown ranges the shooting was most indifferent, though the targets were much more conspicuous than anything that is likely to be met with in action.

So far as I could see from a distance, there was no observation of fire beyond that which could be done by the officers with very indifferent field glasses.

Fire was generally opened at from 800 to 1,000 yards, at which ranges it seemed to be effective. The Russians strove always to employ volley firing, which they maintained as long as possible, the Japanese, on the other hand, employed individual

fire. I saw no long-range fire on the Russian side, though I saw it employed by the Japanese on the 31st July with very good effect.

From personal observation, I came to the conclusion that the best results can be obtained with the modern rifle, when controlled independent firing is employed, at ranges up to 1,000 yards; beyond that distance it seems to me that volleys will be more usefully employed. That very few hits will be made in proportion to the number of rounds fired, cannot be denied, but it seems to me that if a well-controlled fire can be brought to bear on advancing infantry, or even in the direction in which infantry are known to be, if it cannot be seen, the hail of lead will stop the enemy from shooting straight, and so save casualties among troops on the defence. At ranges under 600 yards, accurate rifle shooting becomes the decisive element, though it is very doubtful whether the defence, which has been subjected to the effects of modern shrapnel, will have sufficient coolness left to make anything but indifferent shooting. It results therefore that it is of vital importance to keep the defending infantry under good cover until the attack reaches 600 yards from the position, when the rifle may be expected to render a good account of itself. It seems to me that the object of all musketry instruction should be to teach troops to use carefully controlled independent firing at ranges from 1,000 yards and under, more especially at ranges from 700 yards to 500 yards. At ranges beyond 1,000 yards volley firing should be practised, the volleys not being too rapid, so as to admit of some sort of observation of fire being attempted; but, speaking generally, I doubt whether any firing at ranges beyond 1,000 yards justifies by its results the expenditure of ammunition involved, though circumstances may arise which will justify its employment. The Russians did not strike me as being good shots, and I was assured that the men seldom fired more than 70 rounds in the year, though the regulations allow of 120.

Entrenching Tools.—I could get no accurate details as to entrenching tools carried by the men, as every officer I asked told me differently, but, so far as I could see, all men in the ranks carried either a light spade or a light axe, in the proportion of about four spades to one axe. These tools were carried attached to the waistbelt, handle downwards, in a case of brown leather, which only covers the blade; the spade, with handle, is about 2 feet long and the blade about 8 inches by 6. There are, in addition, some 90 heavy spades, 30 heavy axes, a few pickaxes and crowbars per battalion, which are carried in carts, normally with the regimental transport in the supply columns, though attempts were made to attach these carts to the transport accompanying the battalion.

Arms and Equipment.—Officers, officials, serjeant-majors, regimental-buglers, and transport non-commissioned officers are armed with swords and revolvers; bandsmen, and a few others, with revolvers and sword-bayonets; transports drivers, with hatchets; clerks with revolvers only; 15 men per company, and

a few others are unarmed, though, for practical purposes, owing to wastage, it may be said that all Russian soldiers, except bandsmen and those armed with swords, were armed with rifles.

The Russian service rifle is known as the 3-line, calibre .299, weight, with bayonet fixed, 9 lb. 12 oz. It is sighted up to about 2,300 yards, it has no cut-off, and cannot be used as a single-loader unless the magazine is empty. The magazine, which holds five cartridges, is loaded by packets of five cartridges, contained in a clip. The rifle appeared to be strong and serviceable, and did not get out of gear. Every soldier carried in his kit a set of spare component parts.

The bayonet is a four-edged weapon, blued, weight 12 oz., it is always carried fixed; the scabbard is of leather alone. The men when they unfix bayonets, which is seldom, generally fix them on the barrel of the rifle with the point towards the butt.

The sword is curved, with a leather scabbard and a single-bar hilt, it is worn edge to the rear slung over the right shoulder, over the tunic or greatcoat, suspended by two short slings so as not to touch the ground.

The service revolver is that known as the 3-line and has seven chambers; it is worn on the waistbelt in a leather case and is secured by a lanyard passing round the neck. Many officers had automatic pistols, the one most commonly in use being the "Browning."

All officers carried field glasses on the waistbelt, which, however, were usually not first-class ones.

Uniform.—The uniform consists of dark green tunic fastened with hooks and eyes, dark green trousers and long boots; the service head-dress is a forage cap with a peak.

In summer, in lieu of the tunic, a coloured blouse, generally of some shade of khaki, green or grey, was worn instead of the white blouse worn in peace time, the forage cap being covered with the same material; the men were also supplied, as far as possible, with thin green trousers. No flaps were worn to the cap, and the men suffered greatly from the sun. Foot cloths, instead of socks, are worn by all ranks.

The boots worn by the Russian soldier are unsuited to Manchuria, as they are much too light for the hills, in which most of the operations were carried on. This was early recognized by the Commander-in-Chief, who was much troubled how to keep the men shod; many were wearing Chinese footgear after two months in the hills, having worn out both pairs of boots with which they started. The boots are no doubt suited for the soft plains of Russia, but were quite useless in the hills of Manchuria. General Kuropatkin asked Sir Montague Gerard what British troops wore, and he was able to send him a pair of ammunition boots and putties for inspection, of which I understood he highly approved.

Entrenching tools and ammunition were carried as already described.* The large and heavy kit bag on the left hip is

* See pages 245-247.

most inconvenient ; there is no counterbalancing weight on the other side, and it is hard to imagine a worse arrangement.*

Weights carried by the Men.—The weight carried by the men is, roughly, 90 lbs. This is excessive, and it was found that the men were unable to carry it and march and fight, especially after the number of rounds carried by the soldier was more than doubled. Orders were issued therefore, about the end of July, that the men should be relieved of some of the weight, the greatcoat and most of the spare clothing being carried on wagons under regimental arrangements.

Bivouacs and Tents.—The normal Russian system of pitching camp is the bivouac, which differs little from the usual type and does not call for remark. The tents used in standing camp or bivouac are invariably the shelter tents carried by the men ; the tents used by the officers are single-fly ones, of similar type to those of the men, but considerably larger and higher.

The shelter tent carried by the men consists of six canvas sheets, three jointed poles, ten ropes and eight pegs. To erect it the sheets are laced together, the poles placed upright in line, the canvas being pegged down over them, the end poles being held upright by guy ropes. The tent is made for six men, each man carrying one sheet, one piece of the pole, and some pegs and guy ropes. The tent is light, each man's share being only 4 lb. ; if properly pitched, it is practically watertight unless the canvas is touched by some object on the inside, when the water comes through at the point of contact. It is not easily blown down. It is true that the single-fly gives very little protection from the sun, but the tent seemed to be generally approved of, and certainly fulfils all demands that can with reason be made of a shelter tent.

In bivouacs there is always an inlying piquet told off, varying from one-sixth to one-tenth of the whole force. Alarm posts are always detailed. There is a general guard, which is on duty inside the bivouac, ten paces in front of the commanding officer's tent, as well as a front and rear guard. The bivouac guard furnishes sentries over the treasure chest, arms, guns, &c. The front guard is 200 paces in front, and the rear guard not less than 25 paces in rear, of the bivouac. The sentries furnished from these two guards are 75 to 100 paces from their guards, are double, and surround the bivouac with a chain of sentries ; sentries must be able to see the posts on their right and left.

If artillery is in bivouac with infantry it is either placed between the units or in rear of them. Normally, cooking places should be 40 paces, and latrines 100, from the bivouacs. This rule regarding cooking places is practically a dead letter, owing to the introduction of movable kitchens. The sanitary arrangements of a Russian bivouac may be said to be non-existent, the men going anywhere and everywhere for purposes of nature.

* But see Colonel Waters's report, page 144.

Cooking Arrangements.—Practically all cooking is now done in the movable field kitchens, of which there are several patterns. There are, however, two main types, four-wheeled and two-wheeled. Speaking generally, the four-wheeled kitchen is intended for infantry and field artillery, and the two-wheeled one for cavalry and horse artillery. In Manchuria, however, it was found that the four-wheeled kitchen was too heavy, and, so far as possible, all units were served out with two-wheeled ones. Normally, the four-wheeled kitchen is drawn by two horses, and the two-wheeled type by one, but in Manchuria these numbers were doubled, and even then there was great difficulty in getting them about on the bad roads, and in the hills they were almost useless. The allotment of these kitchens was one to each company. The cost of these kitchens is between 50*l.* and 60*l.* Briefly described, they consist of a large cauldron on wheels with a smaller one inside, the fire being under the cauldron; in the large cauldron the national dish of meat soup is prepared, and in the smaller one a kind of porridge made of groats. Wood is used as fuel, and the cooking goes on whilst the cart is moving, provided the roads are good, very nearly as rapidly as when stationary, the time taken to prepare the food being about three hours.

When the food is ready it is ladled out into the men's mess-tins. A four-wheeled kitchen can supply a full meal for about 250 men, and a two-wheeled one for about 150.

The officers' kitchens are more elaborate, roasting, baking, boiling, &c., going on at the same time; but this is only possible owing to the smaller numbers for which they are required to cook. When troops are moving by rail these kitchens are packed in empty wagons, and the food is cooked in the train.

For practical purposes, these kitchens are admirable on good roads, being able to go anywhere that other wheeled transport can, and the men can receive a hot meal as soon as they reach camp.

Units which were not supplied with these kitchens used large copper cauldrons, which were fixed in the ground over a fire lit in a space hollowed out underneath for this purpose. These cauldrons answered admirably for troops not on the move and in fine weather, but in comparison with the movable kitchens they had the disadvantage that the fire was put out by rain, and in very wet weather they were easily swamped; moreover, the troops had to wait a considerable time on arrival in camp before they could get their food.

In the hills, where wheeled transport could not follow the troops, neither movable kitchens nor copper cauldrons were available, and the men had to cook their food in their mess-tins.

Signalling Arrangements.—The Russian infantry had no signallers, the only visual signalling employed being the heliograph, the operators being men of the engineers.*

* See page 278.

The only signalling practised by the infantry was done with the rifle, on the same lines as that which obtains in the British Army. Owing to this want of flag signallers there was no means of transmitting information except by messenger; for example, on the 31st July, I was on a detached hill with a piquet commanded by an intelligent non-commissioned officer, who noticed a considerable assembly of Japanese infantry behind a wood; this was not noticeable to the Russian batteries some distance away, and he had to send a man on foot to inform the gunners, but before the guns opened the Japanese had extended and moved away and the chance was lost.

Infantry commanding officers down to battalion, and very often to company commanders, had a few mounted scouts belonging to their regimental company, whom they could use as messengers; but when as sometimes happened these companies of scouts were taken away bodily from regiments and no Cossack orderlies were attached, the despatch of information by men on foot was a very slow proceeding.

Orders were usually communicated during action by means of mounted orderlies; but to get orders up to the advanced troops was often impossible owing to the want of signallers.

This question of the transmission of orders in action, as already mentioned, was one of the weakest points in the Russian organization.

(8 vii.) Cavalry.

Regular Cavalry.—There were only three regular cavalry regiments in the Far East, though the 55 squadrons of the Frontier Guards are to all intents and purposes regular cavalry, and were largely used by the Russians as such. The 51st and 52nd Dragoons (European regiments) only arrived in the theatre of operations just before I left Manchuria. I did not see the 52nd and only once saw the 51st, when I passed them on the line of march, so I can say nothing about them beyond that the 51st seemed well-mounted and were carrying full service equipment on their horses, and so far as I could see had their regular allowance of transport with them, including four-wheeled wagons. All remarks on regular cavalry must therefore of necessity be confined to one regular regiment, the Primorsk Dragoons, and the 55 squadrons of the Frontier Guards.

Cossacks.—I saw regiments of the following Cossack *Voiska*,* Trans-Baikal (in which for the purpose of this report I will include the Amur and Ussuri Cossacks), Siberian, Orenburg and Ural. There was also a brigade of Caucasian cavalry consisting of the 2nd Daghestan Cavalry Regiment, and a composite regiment of Kuban and Terek natives. The majority of these regiments were composed of second category men, there were only six first category regiments, viz., four Trans-Baikal, one Siberian, and one Orenburg, the Amur and Ussuri Cossacks were half first and half second category men.

Personnel.—I lived with the Primorsk Dragoons for nearly three weeks and saw much of the Frontier Guards who were most hospitable and invariably put me up when I was passing any of their posts, so I am able to speak of them from personal experience.

Regular Officers.—The officers were nice gentlemanly men and seemed to know their work well and take an interest in their men. They were better linguists than the officers of infantry regiments, and generally struck me as of a higher social status. These remarks apply with even more force to the officers of the Frontier Guard cavalry, who were very largely from the nobility. So far as I could ascertain the majority had left Russia in order to take advantage of the higher pay and better prospects afforded by service in the Far East.

Cossack Officers.—The officers of Cossack regiments were very mixed. Those of the Trans-Baikal *Voisko* were very largely recruited from officers of the Guard and European

* *Voisko* rendered literally is an Army or Force, and is the accepted term used for describing the Cossacks of different localities. *Voiska* is the plural of *Voisko*.

cavalry regiments. This was more especially the case in the four second category regiments; amongst the officers of these regiments there were even several regular infantry officers. All regiments of this *Voisko* seemed considerably over-officered, for apparently no Russian officer could come to the East except in some recognized appointment or as an officer of one of the regiments serving there, so that nearly all the younger aristocracy of St. Petersburg who came out as orderly officers, &c., were posted to Trans-Baikal Cossack regiments, generally second category ones. In this way the Grand Duke Boris and his two aides-de-camp were nominally officers of the 2nd Nerchinsk Cossack regiment.

I never saw any of the first category Trans-Baikal Cossack regiments as a whole, but of the many officers of these regiments whom I met, I never met one who was a real Cossack, and I very much doubt if there are many of them; very possibly, owing to the comparatively recent formation of this *Voisko*, there are very few of its members sufficiently educated or of sufficient means to take commissions.

The officers of the Siberian, Ural and Orenburg Cossack regiments, which were all second category ones except one Orenburg and one Siberian regiment, were, in contradistinction to those of Trans-Baikal regiments, much more usually real Cossacks. I saw very little of the Ural Cossacks, so cannot speak so much from personal experience as I can with reference to the other two *Voiska*. The officers of the Orenburg regiments were nearly all true Cossacks, and seemed much better educated and professionally instructed than those of the Siberian regiments. Amongst the officers of Siberian regiments there was a fair sprinkling of guardsmen and regular officers, but still the majority were real Cossacks, and the commanding officers were, I think, all Cossacks.

The officers of the Caucasian cavalry brigade were about equally divided, half being guardsmen and half true Caucasians.

From the above description of the officers of the Cossack regiments it can readily be understood that the composition of the officer corps was very varied, a very large number of them had nothing in common with their men, and only joined their regiments to get out to the east, where they anticipated an easy victory and a speedy return to Europe.

The Men (Regulars).—The Primorsk Dragoons and Frontier Guards, so far as I could see, had no Buriats* serving in their ranks; a large proportion of the Dragoons, however, were Russian colonists in the Far East, whereas the Frontier Guards were mainly recruited from Europe.

The men are much more literate than the infantry, the Frontier Guards being better in this respect than the Dragoons.

* Buriats are the Mongolian inhabitants of Trans-Baikal, many of whom have been incorporated in the Trans-Baikal Cossack *Voisko*.

They have the usual characteristics of the Russian soldier, great endurance and bravery, are very amenable to discipline, always seem cheerful and have great respect for their officers, in addition they seem more sober than the infantry soldier, whether this is due to want of opportunity or from more self-respect I am unable to say. They all seem intelligent and capable of independent action; their knowledge of local conditions, and to a large extent of the actual country makes them much more useful than they otherwise would be; quite a fair percentage of the men serving know a little Chinese, which is of the very greatest use when they are reconnoitring. The Frontier Guards, owing to the nature of their duties, have practically no training once they join the force, but as they are all old soldiers, carefully selected for intelligence and good character, this does not so much matter; moreover, the duties which they have to perform are the best possible training for reconnaissance and independent action. The Dragoons are taught to consider the rifle as useful as the sword, and do not regard dismounted work as derogatory, and they seem well drilled for close order work mounted. As regards musketry, I could get no details, though from what I heard most of them knew how to handle a rifle before joining, and the Frontier Guards were all good shots in their former corps.

The Dragoons are paid about 1s. a month, but the Frontier Guards, in addition to lodging, clothing, and rations, receive something over 1s. a-day, which is considered very high pay, and the authorities consequently have many applications and are able to pick and choose from a large number of volunteers.

Cossacks.—The men of the different *Voiska* differed in the same way as the officers, consequently it is impossible to generalize, and each *Voisko* must be dealt with separately.

Trans-Baikal Voisko.—The Trans-Baikal *Voisko* was largely composed of Buriats, of whom there could not have been less than 40 per cent. in the ranks; this may account for the fact that they were on the whole quite small men. The men taken as a whole were not lacking in intelligence, though to a great extent illiterate; however, their knowledge of local conditions, and more especially the fact that a large number of them knew some Chinese, enhanced their value in Manchuria. I am bound to say that first impressions were not altogether favourable; however, they were quite good mounted infantry and knew how to handle their rifles. They were individually brave and of great endurance, and seemed very amenable to discipline. From the fact that they were natives of the east, and had large numbers of Buriats serving, they got on much better with the Chinese than the men of other *Voiska*. The men, in addition to being fairly expert with the rifle, knew how to use their swords, and though quite useless, I should say must have been individually dangerous antagonists in a charge. So far as I could hear no peace training of the regiments was attempted.

The officers declared that the second category regiments were better than those of the first category, owing to the fact that the men were older and more experienced, and for the most part had seen some service. This I can readily believe, though the external appearance of a second category man was inferior to that of a first category one.

Siberian Voisko.—I saw no first category men of the *Voisko*, so all remarks must of necessity be confined to second and third category regiments, of which I saw a good deal.

The men of the Siberian *Voisko* were all pure Russians from Siberia, and there were no Buriats in the ranks. They were fine burly fellows, and a regiment on parade made a much better impression than a Trans-Baikal one. They had a fair sprinkling of men who had already seen service, but had not the same knowledge of local conditions, and knew nothing of the Chinese language. They were more literate than Trans-Baikal Cossacks. The regiments of this *Voisko* might be employed as cavalry, though in a charge they could not hope to compete successfully with an equal number of regular cavalry; it is true that two of their squadrons charged and annihilated one Japanese squadron, but this was a surprise. Moreover, the Japanese were really unarmed, for after firing their rifles from the saddle, they had not time to draw their swords before the Cossacks were on them.

Ural Voisko.—I never saw the Ural *Voisko* in action; but it contained fine, big men, and made a good impression. One of the foreign attachés, who was with them in action, told me that they seemed a useful body of men.

Orenburg Voisko.—The men of the Orenburg *Voisko* were much better trained, much more literate and intelligent, and generally superior to those of other Cossack *Voiska*. The first category regiment I saw seemed to have a large number of very young men in their ranks. Both first and second category regiments impressed me more than any other Cossack regiments that I saw; they seemed to be much better organized and generally more like regular troops. The men were not so big or heavy, which, for mounted troops, is not a disadvantage.

Caucasian Cavalry.—The Daghestan Regiment was composed of physically fine men; but its fighting value was not great for, in action, the men were of little real use. They were very wild, and so far as I could see, badly disciplined. I did not see the Terek-Kuban Regiment.

Pay of Cossacks.—All Cossacks received the same pay as regular cavalry; but in spite of the smallness of the monthly pay they always seemed to have plenty of money. Taken as a whole they seemed a contented body of men, capable of great endurance and, if they were only properly trained, would make good mounted infantry.

Comparative values of different Voiska.—So far as the comparative value of the various *Voiska* is concerned, putting aside the Ural Cossacks, whom I did not see, I have no hesitation in saying that for all purposes the Orenburg Cossacks were the best, though in Manchuria, owing to local conditions, the Trans-Baikal were the most useful.

There can be no doubt that the Cossacks generally, in this war, have not lived up to their reputation, and this was admitted by the army as a whole. A captain of Orenburg Cossacks with whom I travelled, a real Cossack, asked me to tell him what I really thought of the Cossacks and how they compared with what I had expected to find them. I told him that I was disappointed and found them below what I expected. He said he was very sorry to hear it, as it only confirmed what he heard on all sides from Russian regular officers, and was at a loss to conceive why this was so, though he himself was reluctantly forced to admit that the results obtained by the Cossacks were much below what he had hoped they would be.

Horses of regular Cavalry.—The Dragoons were well mounted on Siberian horses, bought under regimental arrangements. The horses seemed to have good bone, without being heavy or clumsy. When I was with the regiment, during the first three weeks in June, the horses, though fine drawn, seemed to have plenty of capacity for work; and when it is remembered that the regiment had been continuously on the move since the beginning of February, and that the work had been exceptionally heavy, this says a great deal for the stamina of the animals. Each squadron had lost only about 40 horses, as they fell in on parade about 110 strong; possibly the losses may have been heavier, as some remounts may have been sent to the regiment from the depôt. On this subject, however, I could get no information. Each squadron was mounted on horses of one colour, and taken all round, the mounts were a very even lot.

The Frontier Guard troopers were not so well mounted as the Dragoons, though they seemed to have no difficulty in doing anything demanded of them and this in spite of the fact that their work was most trying and the horses practically got no rest. They were mounted on both horses and ponies; speaking generally, the further south one went the smaller one found the mounts of the Frontier Guard.

Cossack Horses.—The Trans-Baikal Cossacks were mounted on small Mongolian ponies, which were very hardy, required no attention, and could generally find food where a civilized horse would starve. The average height could not have been more than 13.1. These little ponies had big bone and were admirably suited for the work required of them, the most common colour was grey.

The Siberian Cossacks were mounted on bigger animals than the Trans-Baikal ponies; they seemed hardy, but I doubt their

being able to stand so much hard work, accompanied by want of food, as the Mongolian ponies of the Trans-Baikal *Voisko*.

The Ural Cossacks seemed well enough mounted, but I never saw them working.

The Daghestan Regiment was, to my way of thinking, badly mounted, the animals being much too weedy and with but little bone, and I cannot conceive how their horses could stand much hard work accompanied by bad or insufficient forage.

The Orenburg Cossacks were the best mounted of all the Cossacks I saw in Manchuria, their animals were smallish horses, average height I should say about 14 hands 2 inches, they were well-made compact beasts and showed signs of breeding, the usual colours were bay and brown.

The Cossack owns his own horse, and I was much struck by their readiness to sell, in fact they were always trying to make money by buying and selling; the Orenburg Cossacks alone seemed to have any affection for their animals and were averse to part with them.

Speaking generally the Russian regular cavalry and Cossacks, both men and horses, were very enduring, were able to march long distances without transport, and were adepts at living on the country.

Formations and Establishments.—As already stated the original formations were never adhered to, and, moreover, were so liable to change that it is no use trying to follow the larger grouping of cavalry units, and we must consequently confine ourselves to the regiment as the largest unit when dealing with formations.

The Dragoons had six squadrons in the regiment, which left Razdolni at full war strength, or about 1,100 of all ranks, but the actual numbers in the field in June, when I was with them, could not have exceeded 700 of all ranks. Practically the whole of the non-combatants together with the head-quarters and all transport had been left at Ta-shih-chiao. The regimental hospital had been left behind, as well as most of the transport. With the regiment in the field there were only one doctor and one veterinary surgeon instead of three and two respectively. Each squadron, however, had its medical and veterinary dresser, who each carried a haversack, as well as four men trained as stretcher bearers, who, when not required, served as privates in the ranks, only donning the red cross when employed as stretcher bearers. Each squadron had a two-wheeled ambulance, the large four-wheeled ones having been left behind. According to regulations there ought to be one forge per two squadrons, but this had been increased under regimental arrangements to one per squadron; these forges, however, were left behind, and the farriers, of whom there were eight per squadron, made use of Chinese forges. Six men per squadron were supposed to be trained as pioneers, but I saw no tools or explosives.

There were supposed to be sixteen scouts per squadron, but they did not appear to be more useful than ordinary cavalrymen, nor did they appear to have received any special training.

Each squadron had a Chinese interpreter who was absolutely indispensable.

The Frontier Guard was organized in squadrons, of which there were 55, each squadron nominally 150 strong including officers, but the numbers varied considerably. There were two regiments of Frontier Guard cavalry each of six squadrons, but the unit was the squadron. The Frontier Guard adopted the Cossack system, the squadron being invariably called a *sotnia*, and the officers by the Cossack designations of *Esaul*, *Sotnik*, *Korunji*, &c.

The Cossacks were organized in regiments of six squadrons, but they, too, were never up to full strength, the average number never exceeded 150 per squadron. So far as transport was concerned nothing really was normal, all four-wheeled wagons were left behind, and nothing but two-wheeled carts and pack animals were taken into the field. I was able to get detailed information regarding the regiments in General Rennenkampf's division only. Each of these regiments was supposed to have 22 two-wheeled carts per squadron, and 22 for regimental head-quarters. These regiments, however, left Liao-yang with 4 two-wheeled carts and 7 pack animals per squadron, and the same number respectively for regimental head-quarters. After having been two months in the field these numbers were further reduced to 4 two-wheeled carts per regiment, with 3 pack animals for each squadron and regimental staff in addition.

Each Cossack squadron had six to seven men trained as pioneers, and it was the intention to form these pioneers into a squadron per brigade.

The Cossacks had a certain number of scouts per squadron, but the same remarks apply to them as to the scouts of regular cavalry.

Each regular cavalry and first category Cossack regiment was to be furnished with a mounted sapper section, but so far as I could ascertain the 1st Orenburg Cossack Regiment was the only one so equipped, but I could get no details as to its formation.

The regulations regarding transport and non-combatants were largely modified for all cavalry, no four-wheeled wagons taking the field, nothing but two-wheeled carts or pack transport being allowed. Cavalry and Cossacks had no movable kitchens. Each regiment had a colour, which it took into the field.

The non-combatant sections of Trans-Baikal Cossack regiments were sent back to regimental head-quarters, where they were formed into a reserve squadron to replace casualties. This reserve squadron was in addition to the depôt squadron originally left at regimental head-quarters.

Reconnaissance.—The Dragoons and Frontier Guards were very useful reconnoitrers, and brought in much useful information. Large reconnoitring parties did not give good results; so far as I could ascertain, a patrol of more than twenty was seldom able to do anything beyond establish the fact that certain places were held, but could find out nothing as to numbers or composition of the enemy. The most useful information was always obtained by small patrols of some eight to fifteen men, generally commanded by an officer, sometimes by a senior non-commissioned officer. These patrols went out in the evening, and got through the Japanese outposts by night without any considerable difficulty. The plan adopted was to scatter and gallop if they were challenged, some pre-arranged place having been given as a rendezvous; if fire was opened it seldom did any harm, as the Japanese were only able to fire in the direction of the noise made by the horses. When the patrols got through they hid themselves during the day, and were generally able to see something of what was going on; if they were surprised they scattered and galloped, hiding by individuals till nightfall, when they got back through the outposts in the same way as they came. The success obtained by this system was largely owing to the fact that the men knew the country well, the Frontier Guards having been stationed there, and the Dragoons having traversed it repeatedly between February and May, when the Japanese made their first landing. These patrols were often out for a week on end, two or three days being the usual time. Men who knew the country were always selected, no matter whether they were scouts or not. These patrols were always furnished with plenty of money, with which they liberally paid the Chinese, who hid them in their villages and supplied them with food for themselves and horses. If a patrol was absent for a long time and any important information was obtained, a private would be sent in with it; the information was invariably in writing and it was surprising how very seldom these men failed to reach their destination.

Screening.—So far as screening was concerned the cavalry seemed to fulfil its mission, though this was rendered exceptionally easy by the numerical inferiority of the Japanese in the cavalry arm. The Russians only attempted one real advance, viz., the attempt to relieve Port Arthur, terminating in the defeat of Wa-fang-kou (Te-li-ssu); here the cavalry were one day's march ahead of Wa-fang-kou, where General Stakelberg's army was concentrating. Head-quarters were at Wa-fang-tien, outposts being pushed out some six miles further south; at first these outposts were purely cavalry, but were shortly stiffened by infantry. I do not think the Japanese got through these outposts, and the screen was well maintained. The Japanese, however, were able to get all the information they required from the Chinese, and there is every reason to believe that if necessity

arose they took advantage of their similarity in feature to the Chinese to disguise some of their own people, who, having penetrated in rear of the Russian screen, were able to find out all they wanted to know. When they really wished to do so the Japanese, by employing a superior force of infantry, had no difficulty in pushing back the Russian advanced cavalry.

In retirement or when covering a stationary force the Russian cavalry seemed to carry out the screening duty very satisfactorily, but this duty was mainly of a stationary nature and consisted largely of outposts.*

Transmission of Information.—Information was always sent by means of mounted orderlies; if the information was very important it was entrusted to an officer, who, however, did not ride alone, but was accompanied by one or two men. I could never ascertain for certain whether duplicate messages were sent by different routes, but from the inquiries I made I am inclined to think that such duplicate messages were never sent. Messages were invariably written; a field message book was employed, the message being duplicated by means of carbon paper.

The remarks made above refer only to regular cavalry. The Cossacks were not very good reconnoitrers. This was possibly due to their not knowing the country. The reports of Trans-Baikal Cossacks were the best. A reconnaissance of Daghestan cavalry sent out on the 30th July failed to bring in any information regarding the presence of the Japanese, and yet within ten hours of this report the Tambov Regiment was surprised in its bivouac by a strong force of Japanese and had heavy losses. The same general remarks apply as to the transmission of information as have been made in the case of regular cavalry.

Tactics.—I saw no cavalry attack, so cannot describe any shock formations.

The cavalry division on the march from Wa-fang-kou was formed as under:—

Advanced guard	-	-	1 squadron.
Main body in order of march	-	{	G.O.C. and staff.
			1 squadron.
			horse artillery.
			rest of the force.

There was no rear guard, and there being nothing but pack transport and a few ambulances there were no special arrangements for the baggage guard beyond that one squadron, the last but one in the order of march, was told off to look after it.

The advanced guard sent out a troop to the front and half a troop to either flank. The advanced troop was about a mile in advance of the main guard, and the half-troops thrown out as flankers moved at a distance of from one to two miles from the column. The advanced guard was about a mile in front of the

* See page 291.

main body, with which it kept up connection by means of three connecting files. Every squadron in the main body appeared to have small advanced and rear guards and a few flankers. This distribution of the column made it excessively long, and it was to me quite inexplicable why each squadron required an advanced and a rear guard.

I was much astonished to see with what apparent ease the small horses of the Cossacks worked in the hills, for which they were much better suited than the big animals of the Dragoons. The Siberian Cossacks, however, seemed to prefer the sky line to any other position, and those armed with lances stood out most clearly; even when they were below the sky line they were generally so near the crest that the lance heads shining in the sun must have been visible for a good distance.

The Dragoons and Frontier Guards, though much slower in the hills, never exposed themselves in the same way as did the Cossacks, and if they did approach the sky line, always dismounted and did their best to keep out of view.

The Dragoons and Frontier Guards fought readily on foot, but their action was mainly defensive and was never really of much use when the Japanese employed infantry to drive them back; they were very quick at mounting and dismounting and had evidently been carefully trained in dismounted work.

I was told that dismounted action was much practised in combination with shock action, the idea being to hold the enemy with one or more squadrons dismounted whilst keeping the remainder mounted awaiting a favourable opportunity to charge him when he had extended in response to the fire action of the dismounted men; however, in Manchuria the ground was so unsuited to shock action that such a combination was practically impossible.

There was a certain amount of dismounted work in the fighting round Wa-fang-kou in the middle of June, which had to be done entirely by the Dragoons and Frontier Guards. There never seemed any disposition to hold a position too long, and dismounted men mounted and rode away before the attack got too close.

The Russian regular cavalry apparently did not consider dismounted action derogatory, but were fully alive to the value of the rifle and the advantage of using it on occasion.

Amongst all the Cossacks I noticed a tendency to consider themselves pure cavalry, and to consider dismounted work derogatory. The Trans-Baikal Cossacks, however, were the most ready to work on foot, and from what I saw and heard were certainly the most useful for dismounted work; the smallness of their ponies greatly assisted them, as they were much easier to mount and dismount and could be more readily concealed than the larger animals of other *Voiska*.

The Orenburg Regiment in the hills east of Mukden was ordered to leave its lances behind and to consider itself as mounted infantry pure and simple. This order did not at all appeal to

officers or men and I heard many complaints about cavalry being improperly used, and they all ardently desired to be transferred to the open country west of Mukden, where they hoped to be able to work as cavalry and employ shock action.

Cossacks had very little dismounted training, even in first category regiments, and of course those of second category had none; the only musketry training the latter had after leaving first category regiments was what they might have done on their own account when out shooting game.

Cossacks, Dragoons, and Frontier Guards were all very mobile; they were able to live on the country and seemed to be able to carry all they required on their saddles, but very little advantage was taken of this mobility; they were absolutely certain never to have to deal with Japanese cavalry alone, and there can be no doubt that they did not feel themselves called upon to combat Japanese infantry. The Japanese advance was so slow and methodical that if the Russian cavalry ever got past the cavalry screen, it almost immediately came upon infantry, by whom it was invariably stopped.

Equipment.—The arms, saddlery and equipment of the Dragoons are as laid down in the textbooks of the Russian army, but there were a few modifications. Each man carried either a spade or an axe, and not only 20 of each per squadron as mentioned in the textbooks. A good deal of the kit normally carried was left behind, such as spare clothing, blankets, &c., and the men never had with them the full amount of food or forage which they were normally supposed to have on the saddle.

The system of fastening the saddlebags to the numnah and not to the saddle seems open to objection, but I heard no complaints about it.

In his kit each man carried four spare horseshoes with nails and detachable ice nails which screw in and out of the shoes, and a first field dressing; they also had more than the normal 40 rounds of ammunition, but there seemed to be no fixed rule about ammunition, every man I questioned seemed to have a different supply; the truth however was, I fancy, that each soldier tried to get as much ammunition as he could so as to avoid any risk of running short. All dragoons carry a bayonet in addition to a rifle. The sword has only a single bar hilt, which gives but little protection to the hand, and the opinion was universal that a good hand-guard was necessary, and all seemed to think that after the war a sword with a proper hand-guard would be introduced. The Dragoons had no lances.

The Frontier Guards nominally had the same equipment as the Dragoons, but as a matter of fact everything was very irregular in this respect, hardly two men being equipped alike; their sword was of the Cossack pattern without any hand-guard.

The Dragoons had a khaki tunic made of camels' hair cloth, and in summer they wore khaki drill. Dragoons and Frontier Guard wore spurs.

The Cossack equipment is given in the textbooks; but beyond that all men had Cossack saddles and bridles there was very little uniformity; in all but first category regiments the men seemed to be allowed to equip and clothe themselves according to fancy. There seemed to be very few entrenching tools amongst the Cossacks, certainly not more than the regulation 20 spades and 20 axes per squadron, though I very much doubt if second category regiments had so many.

The Cossack saddle is very uncomfortable; there is no real grip possible, the rider really standing up in the stirrups on the back of the horse. It did not appear to me that the men used the saddle cushions to carry the kit which is laid down to be carried in them, but stuffed everything into their saddlebags. The whole equipment seemed as though it were weak and would fall to pieces, though as a matter of fact it was quite serviceable, though eminently unsoldierlike.

The various Cossack *Voiska* were differently clad; with the exception of Caucasian Cossacks they all wear tunics or blouses in the summer, the different *Voiska* being distinguished by the stripes on their trousers and bands round their caps. The Trans-Baikal have yellow; the Ural, crimson; the Siberian, red; and Orenburg, blue bands and stripes.

The Caucasian Cossacks wear the *cherkesska*, or long coat, open over the chest, fastening at the waist and reaching to the knees; they wear lambswool bushies in contradistinction to other Cossacks, who have forage caps.

Cossacks, in contradistinction to regular cavalry, carry no bayonets; the ammunition is carried in a bandolier instead of in pouches, as by the dragoons. The sword has no hand-guard. Trans-Baikal and Caucasian Cossacks have no lances; front rank men of all other *Voiska* have them. The Cossack lance struck me as being much too long and heavy to be conveniently used; those Cossacks armed with lances seemed to have great faith in them, though I doubt their being able to get the full value out of them owing to their excessive weight and length; the lances had no pennons. Cossacks wear no spurs.

General.—Neither regular cavalry nor Cossacks have shelter tents. All carry the rifle slung across the shoulder, not in a bucket; on service, the cover in which the rifle is carried in peace is not used, and the rifle is ready for instant use, though, owing to the dust prevalent in Manchuria, most men covered the bolt with a piece of rag.

Horses are only tied up by the head, no heel ropes being used; normally the horses should be tied by the head to long picket ropes stretched between stout pickets; but in practice this was not adhered to, the horses being generally tied up to a tree or post, or any convenient natural object.

The Russians largely used green leather where we use ropes or tanned leather; this is infinitely preferable, as it is much stronger and, if kept properly greased, is practically unbreakable. The Cossacks had such leather thongs hanging all round their

saddles, with which they tied on all sorts of articles, kettles, saucepans, &c. These leather thongs hanging all round the saddle may be unsightly, but are eminently practical.

Weights carried by the Horses.—The maximum weight carried by a regular cavalry horse is 324 lbs., or just over 23 stone, though the Primorsk Dragoons were actually carrying a good deal less owing to a considerable amount of the spare kit being left behind, and also to the fact that they seldom or never had the full amount of rations or forage normally carried on their saddles. The horses did not look overloaded. Cossack horses normally ought not to carry more than 18 stone, though I think they really carried a good deal more; all Cossack horses looked overloaded.

In the regular cavalry the corn-sack is carried in front of the saddle with the ends stuffed into the wallets, the Cossacks carry it in the rear of the saddle with the ends stuffed in the saddlebags. This is the normal arrangement, though, in reality, the corn was carried differently; usually the regulars carried it in rear of the saddle if they had no hay, or if they only had a small amount of corn then in the nosebag hanging on the off-side of the saddle.

On active service the forage net was not made much use of; the hay, or straw which was usually carried in lieu, was strapped on in rear of the saddle or in front of it. Speaking broadly, however, there was no standard system; and each man carried the forage he might succeed in getting in whatever way seemed best to him, the Dragoons usually preferred strapping it on in rear of, or in front of, the saddle, whilst the Cossacks seemed to prefer to have it hanging on both sides of the saddle.

Supply of Ammunition.—I could get no accurate details as to the supply of ammunition. When I was with the Dragoons they had no reserve ammunition with them, but every man had more than the regulation 40 rounds on his person.

So far as the Cossacks were concerned there were no fixed rules, the ammunition carried by the men, or in regimental reserve, varying from 70 to 120 rounds per man according to the views of the commanding officer. What arrangements were made to keep up this supply I was unable to ascertain.

(8 viii.) Artillery.

Guns and Equipment.—There were both old and new pattern guns in Manchuria.

Of the former there were very few, being limited so far as I could ascertain to the following:—

8 batteries, light field guns, 1892 pattern; the 2nd and 3rd Siberian (reserve) Artillery Divisions were armed with these guns.

2 batteries, 2·5-inch mountain guns.

2 batteries, 6-inch howitzers.

4 short 6-inch siege guns.

All the Frontier Guard artillery, which I saw, was armed with old pattern light field guns and old pattern mountain guns; I was told that they had some new pattern mountain guns, but I am unable to confirm this from personal observation. As all the above natures of guns are fully described in the various handbooks of the Russian Army it seems unnecessary to do more than mention them in this report.

Horse and field artillery batteries, with the exception of the eight Siberian batteries mentioned above, were entirely armed with quick-firing guns. Both horse and field batteries were armed with the same gun, though the equipment was slightly different.

Some howitzer and mountain batteries, armed with new material, were on their way to Manchuria; I never saw the mountain guns, and only caught a glimpse of the howitzers when passing them on the railway. As regards the quick-firing gun, I was able to get the following details, which, however, are only approximate.

The gun itself is made of steel, something over 8 feet long, calibre 3 inches, total weight of gun, with breech, about 8 cwt.

The system adopted for closing the breech is the interrupted screw with de Bange obturator.

The system adopted for checking recoil consists of an indiarubber spiral column between the trail brackets, and a steel spade rigidly attached to the end of the trail. The actual recoil of the barrel is about 3 feet, which is apparently insufficient, as the gun jumps after firing and the spade takes several rounds to get firmly fixed. The rubber spiral is a weak point as it requires to be renewed from time to time; each gun has five spare rubber spirals, though the officer who told me this did not seem sure of his facts. I asked how the rubber stood changes of temperature, and was told by the officers of Trans-Baikal Cossack Horse Artillery, who had had the gun for about 18 months, that so long as it was kept properly greased extreme cold did not affect it.

The spade gives trouble going over bad ground, as when limbered up it is much too near to the ground.

The only sights which I saw consisted of slits for both fore and back sight, there being no cross wires or pin-head arrangements, and I was told that there were no telescopic sights.

There are no shields, and the firer does not sit on the trail.

Traversing is done by a fixed iron handspike which folds back on to the trail; in addition, slight lateral deviation can be given by means of a cogwheel; the maximum deviation which can be given in this way is about 3 inches, and is parallel to the axis, and not worked on an arc with the breech as centre. There is a movable arc fixed on to the top of the breech of the gun for indirect laying, which seems to work well and was much used.

The rate of fire does not exceed 16 rounds a minute, but I very much doubt whether this is usual; personally I never saw such rapid fire.

Pole draught is employed, but the pole seems unnecessarily low. Draught is from the collar; the traces of lead horses are attached to links on those of the centre pair, those of the centre pair to the pole, and those of the wheelers to the splinter bar. The traces seem much too long, and when the gun is turning they trail on the ground; it was always a wonder to me how the horses' legs did not get mixed up in the traces, but somehow or other this never seemed to occur; many batteries seemed to recognize that the traces were unnecessarily long, and tied knots in them to shorten them.

The off-horse carries nothing beyond the very smallest amount of necessary harness, which comprises neither pad nor saddle; the drivers' kit is all carried on the riding horse.

The track seemed considerably wider than ours, and the centre of gravity very low, as the height of the gun axis above the ground level could not be more than 2 feet 6 inches.

Each battery had a telescope, but they were so indifferent that the officers said they preferred to use their own field glasses, some of which were very good and furnished with cross-wires to assist in the observation of fire.

Field batteries had twelve and horse artillery nine ammunition wagons;* in addition, each battery had a two-wheeled ambulance, a forge, and 1 spare gun carriage, as well as in some cases a movable kitchen.

The gun and wagon limbers are identical, and as the wagon body is really only a double limber, it is unnecessary to do more than describe a limber. The limber consists of a box which opens to the rear; the door is hinged to the bottom of the box. The interior of the box contains 3 compartments; the two outside ones have 4 trays each, in horse artillery, 3;

* According to regulation a field battery should have 16 ammunition wagons, a horse battery 12. Probably batteries have not received their full number of new pattern wagons.

various small stores are packed in the central one which has 3 trays, the bottom 2 of which are fitted to carry shell if required; each tray holds 4 shells lying on their sides, packed headers and stretchers; the trays slide in and out and are taken up bodily to the gun.

Each limber has a footboard box, in which small stores are packed; there are certain stores carried on every wagon and limber, such as spades, cornsacks, hay, and men's kits, &c. All artillery material is painted dark green, and each limber wagon body and gun carriage has painted on it, in white letters, the number of the gun, battery, and the brigade or division to which it belongs.

Ranges and Shooting Accuracy.—The extreme range, so far as I could ascertain, is 7,000 yards, but as the gun has nothing but shrapnel the extreme range is governed by the extreme range of the fuze. I made many inquiries, but I never got the same answer as to the distance to which the fuze could be set, the distance varying from 5,200 yards to 6,600 yards, but I am inclined to think that the extreme distance at which shrapnel could be used was 5,500 yards, and this was the most usual answer I got.

The initial velocity of the shell is about 2,000 f.s.; all the officers that I asked were more or less unanimous on this point. The gun was very accurate, and when well served obtained extremely good results. The reason why the Russian artillery did so badly at the beginning of the war was because it had only just been re-armed; the Trans-Baikal Cossack Horse Artillery, on the other hand, who had had the gun for at least 18 months, always made good practice.

I heard many complaints as to the difficulty of giving sufficient elevation for firing up hill, and this had to be obviated by sinking the trail in the ground; the Japanese artillery never seemed to have any difficulty in firing up or down hill.

Fuzes and Shells.—The fuze is fixed in the shell and is not removable; it is of aluminium, and can be used either as a time or percussion fuze; it is very easily set, and I was assured that the mechanism was very simple. There is no safety pin, as the fuze itself is not at all sensitive,

The only shell carried is shrapnel; it is made of steel, contains 250 bullets, and has the bursting charge of black powder in the base; shell and powder form one cartridge, fitted in a brass case; the weight of shell, according to all officers whom I asked, is 14½ lb. Smokeless powder is not employed, the Russians call it partially smokeless, but there is a distinct brown smoke, which clearly reveals the position of the gun; it is true that the smoke disappears very rapidly, but still there is quite sufficient smoke to enable the enemy to locate the position of the gun. This was in very marked contradistinction to the Japanese gun, which fired really smokeless powder;

this, however, gave a very bright flash, and if the background had not been carefully chosen would have been very visible.

In connection with these questions of visibility, the dust thrown up by the spade before it was finally anchored no doubt assisted the enemy in locating the position of the Russian guns.

I heard no complaints as to bad quality of ammunition, and so far as I could see and hear, the fuzes and powder were very reliable.

Shields.—There are no shields in use, but the general opinion amongst artillery officers with whom I discussed the question was that they ought to be provided.

Weights behind the Teams.—The total weight of a horse artillery gun, packed ready for service behind the teams, is nearly 31 cwt. I got no accurate details regarding the field artillery gun; the gun, however, is identical, but the weight behind the teams is heavier by 720 lbs., so I was told by one horse artillery officer, but he declined to vouch for the accuracy of his statement; this would make a field gun packed for service about 36½ cwt. behind the teams.

Personnel and Horses.—Owing to the fact that the majority of the artillery in the theatre of operations, before the arrival of the European corps, only received the quick-firing gun after the commencement of hostilities, the value of the personnel was not very high in the first months of the war, and the Russian guns were invariably put out of action by the inferior, though better served, Japanese artillery. This became so evident to the Russian authorities that they stopped sending brigades of artillery which had only been recently re-armed, and sent brigades from other corps which had been re-armed some time.

The artillery personnel from Europe seemed well trained, and both officers and men seemed to know their business, with the result that the European batteries were superior to the artillery of the East Siberian Rifle Divisions. Both officers and men of these batteries were practically ignorant of the quick-firing gun, and had to learn its mechanism, working, &c., on active service. I believe it to be a fact that the batteries engaged at the Ya-lu had never fired off their guns until they did so in action.

A battery of the 5th East Siberian Rifle Division, which was paraded for the inspection of the foreign attachés on the 4th May, was so badly trained that the simplest parade movements were carried out with difficulty. I was told that this was a newly-formed battery, made up of drafts of men and officers from Europe, and that they had not shaken down into their places was only too apparent.

Taken as a whole, however, both officers and men seemed well trained, though the fact that many of the Asiatic batteries were only new formations, and that hardly any of them had seen the gun with which they were armed, prevented them from being as serviceable as they might otherwise have been.

The two-horse artillery batteries from Europe, and certainly the 1st and 2nd Trans-Baikal Cossack Horse Artillery Batteries, were worthy of all praise; both men and officers seemed thoroughly to understand their work in all details. The 1st and 2nd Trans-Baikal Cossack Horse Artillery Batteries had won prizes for good shooting, the 2nd Battery having won the Emperor's prize last year. I never saw the 3rd and 4th Batteries, but the officers of the 1st and 2nd Batteries assured me that they were practically as good as they were.

All the personnel of these batteries were real Cossacks, those of the 1st being mainly Buriats, while the 2nd was mainly composed of Russians.

The men and officers of the eight Siberian (reserve) batteries were not as good as those of active batteries, but they improved, and when I left Manchuria made the most of the old-pattern gun with which they were armed.

The drafts which came to replace casualties amongst men and officers were not up to the standard of those actually serving, being mostly reservists: amongst the officers this was specially noticeable.

The horses were for the most part very good, and seemed hardy and well up to their work; in the two-horse artillery batteries from Europe there were many well-bred horses which did not stand the hardships and want of forage nearly so well as the coarser, though more hardy horses of field batteries; they seemed to me to get out of condition very easily, and after a few weeks' hard work looked lanky and weedy and very different from the sleek and really beautiful animals they were on arrival. These two batteries when they arrived from Europe made the very best impression as regards their horses, but they were not hardy, and were quite unsuited to local conditions.

Some of the gunners of the Trans-Baikal Cossack Horse Artillery were mounted on small Mongolian ponies, but with this exception they were mounted just as well as the rest of the artillery.

The artillery lost a great many horses, but judging from the numbers of trains filled with artillery remounts which I passed on my return to Europe, they were being rapidly replaced.

Supply of Ammunition.—Horse Artillery.*—Each horse artillery battery had 792 rounds, carried as follows:—24 rounds in each of the six gun limbers, 24 rounds in each of the nine wagon limbers, and 48 in each of the wagon bodies, which gives 132 rounds per gun. In addition, if the spare gun carriage accompanied the battery, which, however, was not always the case, there were 24 more rounds available, or four per gun. Nothing but shrapnel was carried, as mentioned above.

* If the two bottom trays of the central compartments are packed with shell, a horse artillery battery has 176 rounds and a field artillery one 220 rounds per gun, whilst the columns would have 405, 180 and 240 rounds per gun instead of 324, 144 and 192 as shown in the text.

Field Artillery.—Each field battery had 1,408 rounds, carried as follows: 32 rounds in each of eight gun limbers, 82 rounds in each of 12 wagon limbers, and 64 in each of the wagon bodies, which gives 176 rounds per gun; in addition, there were 32 rounds in the spare gun limber, which would give an additional four rounds per gun.

The question of how much ammunition was carried in the columns is almost impossible to answer, as all columns were in a state of reorganization. So far as I could ascertain, East Siberian artillery brigades ought to have a reserve of three and three-eighths wagons per gun in the columns; European artillery brigades seemed to have a reserve of from one and a half to two wagons per gun. With regard to horse artillery, I could get no details as to how it replaced its ammunition.

From the above it appears that East Siberian artillery had 324 rounds per gun carried in the column, and European artillery 144 to 192 rounds per gun, or that this was what was intended. In the early stages of the war ammunition was very scarce, and the columns not being available, there was the greatest difficulty in replacing ammunition. At Wa-fang-kou, the 2nd Trans-Baikal Horse Artillery Battery fired 540 rounds the first day, and it seemed to fire very slowly; the second day it fired 180, and then had to cease fire, having exhausted its ammunition, as its ammunition was not complete when the battle began. In the evening it found an ammunition column and filled up. On the 27th June the Russian field battery, engaged at the Ta Ling, fired all its ammunition between dawn and 7.40 a.m., or 176 rounds per gun in under 4 hours.

The main reserves of ammunition were kept at railway stations, the park or ammunition column being the only mobile supply; there was nothing to correspond to our ammunition parks.

Establishments and Formations.—The battery of eight guns for field and mountain, and six guns for horse and howitzer artillery was the unit. In round numbers, the number of men in each class of battery is as follows:—

Field battery of eight guns, 6 officers or officials and 200 non-commissioned officers and men.

Mountain battery of eight guns, 6 officers or officials and 230 non-commissioned officers and men.

Regular horse artillery battery of six guns, 5 officers and 170 non-commissioned officers and men.

Trans-Baikal Cossack horse battery, 6 officers or officials and 230 non-commissioned officers and men.

Howitzer battery of six guns, 5 officers, 250 non-commissioned officers and men.

The establishment of horses was approximately as below—

Field battery, 180; mountain battery, 200; regular horse battery 240; Trans-Baikal Cossack horse battery, 320; howitzer battery, 180.

All the above-quoted figures are about the maximum, and I very much doubt so many having ever been actually present in battle.

As regards carriages: beyond their guns and wagons, batteries did not seem to have more than an ambulance and forge; some had a movable kitchen and a spare gun carriage; the rest of the battery carriages were left behind.

As regards the grouping of batteries into larger formations there was a great deal of variety. There were brigades of three divisions,* one division being of two batteries, and two divisions of three batteries each; brigades of two divisions each of three batteries, and brigades of four batteries. In addition to the divisions forming sub-units of brigades there were divisions of four and three batteries each.

The horse artillery, mountain, and howitzer batteries in the theatre of operations were not grouped when I left; but there was a regiment of howitzers of four batteries on its way to the east, which I passed on the railway.

A brigade was commanded by a major-general, whose command varied in size from 32 to 64 guns. In addition army corps, which had two brigades, had a major-general on the staff of the army corps commander; he, to a certain extent, commanded the two brigades, though for all purposes of organization, discipline, &c., the brigades were under the general officer commanding the division to which they were attached.

The Frontier Guard Artillery was organized in batteries of eight, six, and four guns each. This organization, however, was very elastic, and sections of two guns seemed to be the real unit.

In connection with establishments generally I was much struck with the apparent difficulty which the Russians had with the supply of material as opposed to personnel. The 2nd and 3rd Siberian (reserve) Divisions were armed with old guns; the 1st and 4th Siberian (reserve) Divisions were completely organized and complete with men and horses two months before the guns were forthcoming; and when guns were sent to the Eastern Detachment to replace those captured by the Japanese several old-pattern guns were sent.

Ammunition Columns.—Details regarding ammunition columns were not easy to ascertain. Speaking generally, every division was supposed to have one; but this was for long not the case, as they had to be organized for the East Siberian rifle and Siberian (reserve) divisions. An Eastern Siberian rifle divisional column or, as the Russians called it, a park brigade, was supposed to consist of three echelons or parks; each echelon ought to have had 18 two-horsed small-arm ammunition carts and 36 ammunition wagons, which would give, for the whole

* The *division* in Russian is the equivalent of the British artillery brigade; an infantry division is called *diviziya*.

column 777,000 rounds rifle ammunition and 10,368 rounds gun ammunition; this, for 32 guns and 9,600 rifles, taking a battalion at 800 bayonets, works out at 324 rounds per gun and 82·3 rounds per rifle. A European ammunition column also consisted of three echelons, each comprising 24 small-arm ammunition carts and 32 ammunition wagons, or 72 carts and 96 wagons for the whole column; this allows 82·3 rounds per rifle, assuming battalions 800 strong, and 144 rounds per gun for brigades of 8 batteries each and 192 rounds per gun for those of 6 batteries.

I cannot vouch for any of the above figures, as nobody seemed to know what the real organization was; but they are the average of the various replies I received. Each echelon of an ammunition column consisted, in round numbers, of 5 officers or officials, 300 non-commissioned officers and men, and 300 horses; the staff of the column consisted of six officers or officials with a few non-commissioned officers and men and horses. An echelon is commanded by a captain or staff captain, and the whole column by a colonel or lieutenant-colonel. I asked the officer commanding an echelon of one of the East Siberian ammunition columns how many men he had; he told me 300, out of whom 270 were reservists.

System of coming into Action, &c.—As the Russians were usually on the defensive, their guns were generally already in position when the action commenced. I never saw more than one battery drive up to a position, unlimber, and come into action at one time; the endeavour was to unlimber simultaneously, just in rear of the position selected, and run the guns by hand into position selected for them. Each gun had one wagon body left in rear of it, and quite close up, to furnish it with ammunition; the wagons were not in line with the guns, except in some fortified positions where cover had been provided for the wagon bodies alongside the guns.

The limbers and spare wagons were sent to the rear. At first the majority of batteries had them immediately in rear and not to a flank; but they soon learnt that this was the worse place for them to be in, and posted them on a flank. The 2nd 'Trans-Baikal Cossack Horse Artillery Battery, from the very first, sent its limbers and wagons well away to a flank; at Wa-fang-kou they were at least 500 yards to a flank. On the other hand, at this battle the field artillery limbers and wagons were kept close up under cover of the hill the guns were posted on, and in consequence suffered very seriously.

The accuracy of the Japanese fire prevented fresh wagons from being brought up to replace empty ones once the action had commenced in earnest; the method then adopted of bringing up trays full of ammunition by hand seemed to work satisfactorily.

On the 31st July the Russian limbers and wagons were at quite close to the guns, but they soon had to leave and went about 500 yards to the left rear.

Concealment of Guns and Batteries.—Unless the Russians were employing indirect laying and consequently were well screened, they could themselves not see the object, it was very important for them to conceal their guns owing to the smoke of the powder and the dust raised by the spade before they were anchored.

The Japanese, being always on the defensive, prepared for their guns, but the gun pits were easily visible with the naked eye for a considerable distance; with binoculars I could easily see the emplacements of the Russian guns at Te-li-ssu at a distance of 4 miles. There was no effort made to conceal them by planting brushwood, &c., or by throwing the earth to one side; they never seemed to think of background or surroundings, but generally selected a bare hill where they had a good field of fire and dug themselves in, with the result that even without the assistance of smoke and dust the Japanese must have been easily able to locate them.

The Japanese guns on the other hand were most difficult to locate, they seemed to think more of concealment than clear field of fire, and were very often in action in millet which afforded excellent cover from view; moreover they did not reveal their position by smoke, though on a dark day or in the evening the bright flash emitted on firing helped to locate their position.

Russian batteries which came into action where no cover had been prepared generally kept just below the crest on the reverse side, which, had it not been for smoke and dust, would have concealed their actual position and actually did conceal the guns and wagons.

From what I saw it struck me that background was the most important consideration when selecting a site for guns with a view to concealment, and that low bushes or standing crops in front of guns which had a suitable background rendered them practically invisible.

Dispersal or Concentration.—The Russians in the earlier actions made no apparent effort to concentrate batteries, I never saw more than two batteries, sixteen guns, concentrated, and owing to their defective signalling arrangements it is hard to believe that any serious concentration of fire could have been attempted from the scattered batteries.

The Japanese, however, worked their artillery in masses, and it was very apparent that even if this were not the case that they were able to concentrate their fire on any object they wished to.

Ranges of Common Shell and Shrapnel.—The Russians had no common shell; the extreme range of their shrapnel shell

was about 5,500 yards, but I doubt its being effective beyond 5,000 yards. The Japanese effective range was certainly not more than 4,000 yards; after this distance the bullets seemed not to have sufficient remaining velocity to do any harm, and they did little more than contuse men whom they might hit; at 4,500 yards their fire was harmless, and they invariably resorted to what I thought at the time was high-explosive shell, but much more probably common shell loaded with Shimose powder; the effect of these shells was practically nil; they generally buried themselves in the ground and if they burst seldom did any harm. If the Japanese were firing shrapnel beyond 4,000 yards the shell always seemed to burst too high, which probably meant that the fuze did not burn long enough, for it is impossible to believe it was due to bad setting, seeing how effective their fire was up to 4,000 yards.

It may be interesting to make some remarks on the effect of shrapnel fire on artillery material. Though speaking generally shrapnel fire does little damage to material, still occasionally it put guns out of action by direct hits. The Japanese captured twenty-one guns at the Ya-lu; the reason why three guns out of the three batteries escaped capture was that they had been withdrawn on the 30th April owing to their having been so damaged by the Japanese fire that they could not be used any further. I saw two of these guns at Liao-yang, and one of the gunners who had been serving them assured me that they were only engaged with field artillery and that the Japanese only employed shrapnel fire. The guns and wagons, which were close up to them for supply of ammunition, were covered with bullet marks, some of the spokes were certainly broken by bullets, and the carriages had been rendered unserviceable by direct hits, the shrapnel actually bursting against the trail.

It was 3 months before the Russians seemed to realize that they had a longer ranging gun than their enemy; however, when they grasped this fact they endeavoured, and not always ineffectually, to prevent the Japanese artillery from coming to within effective range. Latterly then one may say that the Russians as a rule opened fire at about 5,000 yards, whereas in the earlier fights they started at much shorter ranges.

The 2nd Trans-Baikal Cossack Horse Artillery Battery at Te-li-ssu opened fire at 5,300 yards, and apparently had some effect as it forced a Japanese column to extend. This battery, however, was certainly one of the best in the army, and both officers and men thoroughly understood the gun with which they were armed, having had it for some time.

Indirect Laying.—The Russians largely employed indirect laying, but I could not ascertain with what effect. Owing to the smoke given off by the powder and the dust raised by the spade before the gun was anchored, the only way in which the Russians could conceal their guns was by making use of indirect laying, and there was an increasing tendency to use it. The

system adopted was, for direction, to send an observing party to a flank to take the angle between the target and an auxiliary mark, which could be seen by all the guns for which the observing party was acting; this angle having been communicated to the batteries the guns were first laid on the auxiliary mark, the movable index arm on the graduated arc fixed to the gun was then set to the required angle, and the line of sight of the gun made to correspond with it by traversing the gun; the elevation was then given by means of a clinometer.

Range Finding.—No range-finders were employed in the Russian artillery; the method adopted to obtain the approximate range was to take the distance off a map with a pair of dividers, and then to get it exactly by trial shots. This method of taking the range off the map was of necessity only very rough, as the maps were not particularly good.

Observation of Fire.—The battery commander did not himself observe, but sent out trained non-commissioned officers to a flank, who did the observing and communicated with him, he himself remaining in the battery. This system gave very bad results, as no non-commissioned officer could be expected to have the same experience as a battery commander; no instruments were used, not even a telescope, everything practically depended upon the eyesight of the individual observer. In the 2nd Trans-Baikal Cossack Horse Artillery Battery, the battery commander himself did the observing, and I am sure that the good results obtained were largely due to this system; he did not hesitate to go to some considerable distance from his guns to carry out his observations. He had very good field glasses, furnished with cross-wires, which greatly assisted correct observation, as each little square represented a certain number of yards in accordance with a table worked out to suit the glasses.

System of Ranging.—Time shrapnel was used for ranging, not percussion shrapnel, but the shells were burst too high to enable any satisfactory observation to be taken.

This system of ranging with time shrapnel is that in use in the French artillery, but there the shells are burst quite close to the ground, and the smoke conceals the target or not according as the burst is short or over, but with the high burst used by the Russians the target was never concealed, and it is very hard to see how they could possibly fix the true range with time shrapnel bursting so high.

A bracket of 466·66 yards was used, with a corresponding change in length of fuze.

Fire Discipline and Transmission of Orders.—Fire discipline and control were good, but there seemed to be a great deal too much supervision by senior officers; section officers seemed seldom trusted to command their own guns.

On the 31st July an artillery general was supervising the fire of each of the two Russian batteries which were in action, and so far as I could see was actually taking the battery commander's place.

Orders were transmitted from the battery to the observing party by lines of men who simply passed on the commands; no system of signalling was in vogue. For longer distances mounted orderlies were employed.

The 2nd Trans-Baikal Cossack Horse Artillery Battery had invented a code of signals which was used in the battery and so the connection by means of a line of men between battery and observing party was unnecessary. This code of signals was much admired and was considered to be a proof of a very perfected training.

Machine Guns.—I never saw any machine gun in action, the only ones which I saw were on a train when I was going home. They were on wheels with shields.

There were no "Pompoms" in the Russian Army.

(8 ix.) Engineers.

It was almost impossible to get any reliable information about the organization of engineers in Manchuria. When I left that country in the middle of August there were, so far as my information went, the following engineer units in the field army: eight battalions of engineers, one balloon company, and one pontoon battalion.

The following details about the above-mentioned units were the result of many inquiries, but I could only confirm them by personal observation in the case of the balloon company and the 6th Sapper Battalion, a battalion from Europe attached to the Xth Army Corps.

Establishments.—The two sapper battalions from Europe, the 6th and 17th, were composed of one telegraph and three sapper companies. A battalion consisted in round numbers of 30 officers or officials and 1,100 rank and file, combatants and non-combatants, with 320 horses and 123 carriages. A sapper company consisted approximately of four officers and 250 rank and file, whilst a telegraph company contained approximately seven officers and 280 rank and file. Two of the sapper companies have a light bridging equipment which enables them to make about 35 yards of bridge.

Speaking broadly, engineers, except men of the telegraph companies, who are armed with swords and revolvers, carry rifles. All men of sapper companies carry what looks like a full size spade; it is carried slung over the left shoulder above the shoulder, blade on the right hip. The telegraph personnel carry no spades.

The telegraph companies seemed to be divided into sections, and were said to have enough wire and cable to lay about 50 miles of telegraph line.

The six East Siberian engineer battalions were constantly varying in their composition; at one time we were told that each East Siberian engineer battalion was to consist of one telegraph, one pontoon, and four sapper companies, though I very much doubt if more than two battalions, 1st and 3rd, ever had this organization. From what I could make out, their two pontoon companies were taken away to form the East Siberian Pontoon Battalion.

I could not find out whether the 2nd, 4th, 5th, and 6th Battalions had three or four sapper companies, but the 1st and 3rd undoubtedly had four each.

Each of these six battalions had certainly two companies each, with bridging material sufficient to make 35 yards of bridge per battalion.

So far as establishments were concerned, from the answers I received from engineer officers whom I asked, the composition of East Siberian sapper and telegraph companies was much the same as that of European ones, though the Siberian telegraph companies appeared to have 10 more miles of telegraph wire than the European.

Technical Employment.—The Russian engineers seemed full of energy and carried out their duties extremely well; they were always on the spot to assist in fortifying positions, and the number of semi-permanent positions which they fortified was extraordinary. The great fault of all Russian works seemed to be the absence of head-cover and of all attempt to conceal the works constructed. The great aim and object of all engineers seemed to be to lay mines, mainly fougasses, and if one can believe Russian reports these mines have been most successfully employed at Port Arthur. In June and July the Russian engineers were very active in laying mines around Liao-yang until they were stopped by the Commander-in-Chief, who feared that this indiscriminate mining might cause his army as much damage as that of the enemy.

The telegraph companies seemed to do what they had to do quite efficiently; in the retirement from Wa-fang-tien to Wa-fang-kou the telegraph was kept open the whole way between the cavalry and General Stakelberg at Wa-fang-kou, being rolled up as the force retired. During the fighting round An-ping the engineers kept telegraphic communication open, but there was no attempt to keep Army Corps Head-Quarters in touch with the actual troops engaged, all messages being sent by orderlies.

Whether or not the telegraph or telephone was used at Liao-yang I cannot say, but all forts were joined up by wire, so presumably it was used during the battle.

Signalling.—All signalling, such as it was, was done by men of the telegraph companies; flags were not used, but only heliographs; the instruments in use were old pattern, two tripods being necessary, a mirror on each, instead of one tripod with an auxiliary mirror as in our service.

The signalling arrangements were most defective, and it really took longer to send a heliographic message than to send a message direct by mounted orderly. A heliograph station was established on a hill in connection with another station also on some commanding height, but there was no station in camp, so if the general wished to send a message it had to be taken by messenger to the station, usually some distance away, and when it was received at the other end it had to be sent to the recipient by messenger; consequently it frequently happened that a mounted orderly took the message quicker than if the heliograph were employed. The actual transmission and reading of messages were moreover extremely slow; in fact, it is not too

much to say that for all practical purposes visual signalling was useless.

Pontoon Battalion.—A pontoon company which I saw at Liao-yang had 24 pontoon sections, which were said to be enough for 100 yards of bridge for all arms. If, therefore, the two pontoon companies were formed into a battalion, there would be 48 sections per battalion, which would make a bridge of 200 yards, which is about what one would expect would be the length for such a number of sections. There must have been a great many spare pontoon sections in the country over and above the 48 with the battalion, or the number of sections must have been increased, for I counted over 100 myself one day at Liao-yang, but what the real organization was I could not find out. Men of the pontoon battalion were armed with rifles.

Balloon Company.—A balloon company was attached to the Xth Army Corps. I saw a balloon go up one day, but it seemed to be of little or no use, and it was hard to see what it could do in the difficult and broken country east of Liao-yang. I could get no details as to organization beyond that it was intended to have sufficient equipment for four balloons, and that the gas was carried ready made up.

Mounted Engineer Detachments.—There were sections of mounted sappers in course of formation for each regular and first category Cossack cavalry regiment, but what the organization of these detachments was I could not find out, beyond that they seemed to have a certain amount of pontoon material.

Railway Troops.—The railway troops were beyond all praise; they entirely worked the railway south of Harbin, and were wonderfully quick in laying down sidings, making diversions, repairing damages, &c.

There were two battalions (eight companies) of the Ussuri Brigade, and four battalions (24 companies) of the Trans-Amur Brigade. The men of these units were used as guards, engine drivers, station personnel, pointsmen, and for all the various skilled administrative work required on a railway in addition to construction and repair work, and, so far as I could see and hear, never failed to carry out the work with which they were entrusted. The men were armed with rifles.

Wireless Telegraphy.—Beyond the fact that wireless telegraphy was employed between Port Arthur and Chifu, I could get no information regarding its use, methods, or working.

Personnel generally.—The engineers were recruited so far as possible from the artisan class, and it may be taken as an almost universal rule that all sappers, as opposed to drivers and such personnel, had received some instruction in a trade before joining the ranks, the result being that men could in most cases be put to work which was not absolutely new to them.

(8 x.) Intendence Department and Supplies generally in the Field.

The Intendence Department.—The Intendence Department has nothing whatever to do with Transport; this is entirely under the General of Communications.

The duties of the Intendence Department are to arrange for the supply of food, forage, clothing, equipment, and cash to the army. It thus performs the duties carried out in our service by the Supply Branch of the Army Service Corps, the Clothing Department, the Pay Department, and, to a limited extent, those of the Ordnance Department. So far as finance is concerned, it supplies the actual cash required, but has nothing to do with any audit work.

All audit work is done by the Control Department, which is directly under the Imperial Control Department; the chief controller on the staff of an army in the field is merely an advisory officer of the commander-in-chief.

In the field the supply of cash to the army emanates in the first place from the Pay Department, which is under the Chief Paymaster of the army, an officer selected by the Imperial Finance Minister with the consent of the Army Commander. The Chief Paymaster is in charge of the chief Field Treasury, from which all disbursements are made to army corps treasuries, upon which the Intendence Department draws for the money required for issue to the troops.

Thus the Intendence Department deals directly with the troops, furnishing them with all they require. It obtains its funds from the Pay Department, and all audit work is done by the Control Department.

The officers of these three departments are non-combatant officials, and have only administrative authority. As a rule, no officer of the Intendence Department is attached to the headquarters of the army; but in Manchuria General Kuropatkin had on his staff an officer called the Chief Intendant of the Manchurian Army. I understood that Major-General Hubert, who filled this post, was a combatant officer specially selected for the appointment.

The general system of supply, &c., prevailing in the Russian service is for officers commanding units to draw money from the Intendence, and to arrange for the supply of food, clothing,

&c., themselves; in other words, the troops are usually fed, equipped, &c., by contract with the commanding officer. All commanding officers endeavour to avoid drawing supplies &c., in kind as long as possible, in order that no corresponding deductions may be made from their contract allowances.

This system of contract may be very excellent in theory, as savings can be made regimentally on certain items and the money thus saved spent in furnishing the troops with other things that they may be urgently in need of; but the system does not work well in practice.

The system of feeding the men by contract with commanding officers has an attendant inconvenience. Men on detachment very often have great difficulty in getting rations; each unit commander drawing money only to feed his own men will naturally not feed those of other units, whose commanders draw payment for their detached men. The men have therefore to be given money by their own commanding officers and have to arrange for their own rations, which often results in their spending improperly the money which ought to last them for some days. No last ration certificates seem ever to be issued, the commanding officer of a man's proper unit continuing to draw money for his rations during his absence. The *bâtmen* whom I received at Liao-yang belonged to a company which had its head-quarters at Liao-yang, and whenever I was away from the place I had to feed the men myself, as the captain of their company drew the money allowance for them wherever they might be. I asked if they could not be furnished with some form of last ration certificate, but was told it was not usual, and that the clerical labour involved did not justify the result. In the same way troops moving by rail or route march, if they are fed at the various feeding stations and line of communication posts, have to pay cash for the ration received.

Mobile Food Supply with the Army in the Field.—The mobile food supply of an army is normally divided into three lines: 1st line, supplies carried regimentally; 2nd line, supplies carried by the supply column; 3rd line, supplies carried by the transport column.

Such normal arrangements did not exist in Manchuria, where there were two lines at the most, regimental and supply columns, although practically there were no supply columns, and the supplies were usually replenished by purchase regimentally, or from the field magazines of the Intendence Department.

When a regiment indented for rations from the Intendence Department it sent its own transport to take the supplies from the magazine to regimental head-quarters, or to wherever they might be required.

Scale of Rations.—Every man normally received the following daily ration :—

					lb.	oz.
Biscuit	-	-	-	-	1	9·28
or						
Bread	-	-	-	-	2	4·1
Groats	-	-	-	-	0	3·6
Fresh meat	-	-	-	-	0	14·445
or						
Tinned meat	-	-	-	-	0	10·834
Salt	-	-	-	-	0	1·55
Fresh vegetables	-	-	-	-	0	9·0
or						
Preserved vegetables	-	-	-	-	0	0·6
Fat or grease	-	-	-	-	0	0·75
Tea	-	-	-	-	0	0·225
Sugar	-	-	-	-	0	0·45
Pepper	-	-	-	-	0	0·026

In addition, spirits, vinegar, and lime-juice were issued from time to time on medical recommendation.

Taken all round the Russian soldier was extremely well fed, and though at times, when actually fighting or in retreat, he fared badly, still I do not think on the whole that he had much to complain of, either as to quantity or quality.

The regulation daily ration per horse is 12·66 lbs. oats or barley and 13·8 lbs. hay or straw.

System of Supply.—As mentioned above there should normally be three mobile lines of supply—

- (a) Carried regimentally.
- (b) Carried by divisional supply columns.
- (c) Carried by transport columns.

Supplies carried regimentally are partially carried by the men and partially by the regimental transport. As might be expected, the supply columns have nothing to do with the Intendance Department, but are really composed of the surplus baggage of the various units composing the division or brigade as the case may be. Each unit has a certain number of carriages in the supply column which carry surplus stores and a certain number of days supplies. The various carriages composing the various portions of the column belong with a few trifling exceptions to the units which the column supplies, and are part and parcel of them, being organized into a column for purposes of discipline and convenience only.

The transport columns are organized by expanding the train battalions existing in peace, and are on much the same lines as the supply columns; they really form movable magazines, and also have nothing to do with the Intendance Department, but are under the General of Communications.

Supply Columns.—The divisional supply columns normally consist of three divisions: the general, the supply, and the sanitary.

The general division is divided into six sections, the first four corresponding to the four infantry regiments of the division, the fifth to the artillery brigade, and the sixth, which carries the baggage, &c., of the column itself, contains carriages of regiments or other units which may from time to time be attached to the column, and the divisional reserve of horses.

The supply division is divided into two sub-divisions, the supply sub-division and the reserve sub-division. Each of these sub-divisions is again sub-divided into six sections as for the general division. Each section carries its own baggage, &c.

For details regarding the sanitary division, *see* "Medical."* If ammunition columns or engineer parks are attached to the division, their carriages, &c., form separate divisions in the supply column.

From the above it will be seen that a divisional supply column has a supply division divided into a supply sub-division and a reserve sub-division. A divisional transport column has practically the same formation as a supply column. The system of supply is that the supplies in regimental charge are filled up from the supply sub-division of the supply division of the supply column, which is in its turn filled up by the reserve sub-division; this gets its supplies from the supply sub-division of the transport column; this is filled up by the reserve sub-division, which gets its supplies from the field magazines of the Intendence Department.

In Manchuria, so far as I could see, there were no transport columns, and the reserve sub-divisions of the supply divisions of supply columns filled up from the field magazines.

Rations carried with Supply Trains.—The normal rations carried were as follows, though these amounts varied according to circumstances:—

With an infantry regiment, 4 days' biscuit, 3 days' groats (engineers, 5½ days' biscuit, 8 days' groats); 2½ days' biscuit by the men; 1½ days' biscuit and 3 days' groats in regimental wagons.

In the supply column, 4 days' biscuit and 3 days' groats in both sub-divisions of the supply division.

Total, 12 days' biscuit, 9 days' groats.

With a cavalry or horse artillery unit, 2½ days' biscuit and 2 days' groats, 2 days' oats and 2 days' hay; 2 days' diminished biscuit, 2 days' groats, 2 days' oats and 2 days' hay on the saddle; the rest in the wagons accompanying the units.

In the supply column, 8 days' biscuit, 10 days' groats, and 3 days' oats.

Total, 10½ days' biscuit, 12 days' groats, 5 days' oats, and 2 days' hay.

* *See* Volume of Medical Reports.

In the field artillery, on the horses, 2 days' oats; on the carriages, 3 days' biscuit, 1½ days' oats, 2 days' hay; in regimental transport, 1 day's biscuit and 3 days' groats.

In the supply column, 8 days' biscuits and groats and 3 days' oats.

Total, 12 days' biscuits, 11 days' groats, 6½ days' oats and 2 days' hay.

For transport horses on the carriages, 3 days' oats and 2 days' hay; in the supply column, 3 days' oats.

In addition there were small supplies of groceries carried by units and by the supply columns as well as a certain proportion of tinned meat. Meat was driven along with the troops in the shape of slaughter cattle.

The above was the normal arrangement, but it was liable to variation according to circumstances.

There is no iron ration in the Russian army; the substitute is biscuit, which is nothing more than bread broken up and dried; this is generally done under regimental arrangements. The tinned meat issued to the troops was packed in small round tins, each containing about 10 ozs., and costing 4½d.

Requisitioning.—There appeared to be no rules in force with regard to requisitioning, each unit making its own arrangements. No scale of prices was laid down, each squadron or company commander trying to buy as cheaply as he could, which invariably resulted in those willing to pay the highest price getting served first, and the others after a good deal of haggling having in the end to pay the highest price offered in the first instance. This want of system led to the Intendance and various units competing amongst themselves, which always resulted in the Russians having to pay a much higher price than was really necessary.

Establishment of Magazines and method of filling them.—Field magazines or advanced depôts were formed as follows:—The Chief Intendant, Major-General Hubert, having been told by the Quartermaster-General to arrange for supplies for so many men for a certain number of days at any place or places, gave the necessary orders as to what commodities were to be sent, and his subordinates worked out what the total weight would come to. An indent was then submitted to the General of Communications, for the necessary transport by road or rail, who arranged for the supply of the transport demanded. The Intendance arranged for loading, either by hired labour or working parties told off from the troops. When loaded, the Department of Military Communications took over the stores and was responsible for them during transit, arranging for escorts when necessary; on arrival at their destination the Intendance again took them over and stored them in their magazines for issue to the troops on indent. This procedure was the same throughout the army, the Intendance having

nothing to do with transport or responsibility for the supplies in transit.

The main magazines were filled up by means of local purchase by the Intendance, or with stores received from Europe, Siberia, or elsewhere; the latter were either bought by the Intendance under the orders of General Hubert or sent out by the War Minister, but in all cases the Department of Military Communications was responsible for them in transit, the Intendance only being charged with collecting them at the despatching points.

Ordinarily, beyond officials the Intendance only had a very small personnel, employed as storekeepers, &c., but on service the personnel had to be increased by bakers, butchers, &c., all such details being arranged for by the units themselves in peace time.

Field Bakeries.—Stationary field bakeries were organized at all advanced depôts, their number depending upon the amount of bread required.

A bakery consisted of 12 ovens, each of two compartments, each compartment being able to turn out 15 *puds* at a time; with these ovens three bakings were possible in the day, which gave a total out turn for each bakery in the 24 hours of $2 \times 15 \times 12 \times 3 = 1,080$ *puds*, or $1,080 \times 36 \cdot 1 = 37,988$ lbs., or enough for 16,884 men daily.

These ovens were made of iron, tops, sides and partitions being separate pieces; they were sunk in the ground and covered with earth.

Source of Supply.—With regard to the actual supplies much could be obtained locally, the troops being able to buy nearly everything they required from the Chinese.

As mentioned above, commanding officers sought to avoid drawing rations in kind from the Intendance, consequently that department was often unjustly blamed for the men being without proper rations.

The cavalry working south of Wa-fang-kou in June lived entirely on the country, with the result that though the men never actually starved, still they suffered considerable privations owing to the impossibility of getting bread, which may be called the staple food of the Russian soldier. Meat, salt, tea, country sugar, and pulse grains could generally be obtained on payment, as well as chickens and eggs.

There was never any great difficulty about forage for horses, straw, barley, bean cake, and millet could usually be bought, and if straw was not available the green millet was used in lieu.

On the 5th July, General Hubert stated that the harvest had been very good, that prices were going down, and that he anticipated no difficulty in getting all he required locally, but that in order to be on the safe side he had ordered large supplies of preserved meat and fish from Siberia.

From what I saw of the country it seemed to me that practically everything required in the way of food, except rye flour for bread, could be obtained locally.

The actual food supplies were drawn from different localities as follows:—

Meat from Manchuria, flour and most tinned stores from Russia, oats from Mongolia and the Ussuri district, barley from Manchuria and the Maritime Province, hay from Manchuria, tea and rice from China. Hay could be got to any extent in Manchuria, but its great bulk prevented it from being supplied to the troops when they were far away from the railway, and they generally had to make their own arrangements for forage, *vide* above.

The supply of slaughter cattle was arranged for by a contractor for the whole army, though units supplemented his supply by local purchase; meat was for all practical purposes limited to beef; I never heard of the troops getting mutton. An ordinary ox gave from 300 to 360 rations of meat.

To sum up, it seemed to me as though the Intendence Department was well managed and had plenty of stores of all sorts for issue to the troops, but that the system of feeding and supplying the army by contract with commanding officers militated against advantage being taken of the really excellent arrangements made by the Department, which deserved very little of the censure so lavishly meted out to it on all sides.

No notes on supply would be complete without mention being made of the Red Cross Society, which supplemented the ordinary rations of the soldier by constant free issues of comforts such as tobacco, tea, sugar and very often clothing in the shape of boots, thin clothes, &c.; a certain amount of these articles ought to have been supplied by commanding officers out of their contract allowances or indented for by them from the Intendence; but, whether from want of transport or failure of supply, most of the above articles were seldom served out to the troops except as free issues by the Red Cross.

(8 xi.) Transport.

Transport, as mentioned in the last section, has nothing to do with the Intendance Department, but forms a special department under the General of Communications with a general officer in charge of it.

The Russians used their ordinary army wagons and carts as well as Chinese carts and pack animals for transport purposes in Manchuria.

The military wagons and carts in most common use were the four-wheeled wagon, the two-wheeled cart, and the two-horsed and one-horsed ammunition carts. A variety of other wagons were in use for special services such as pontoon and telegraph wagons, but I never had an opportunity of more than glancing at them when passing.

The sapper battalions had some four-horsed wagons for engineer stores, they also had three-horsed wagons, the horses being harnessed abreast, for carriage of bridging material as opposed to pontoons, and for air-line sections of telegraph companies. The pontoon wagons were all four-horsed and looked to be merely platforms on wheels.

The usual form of transport met with was the light two-wheeled cart, drawn by one horse in shafts; very often, however, a second horse or pony was attached to a swingletree fastened to a splinter bar nailed on to the footboard. The cart itself when packed with its own stores and horse kit weighs about 460 lbs. The length of the cart from the front of the footboard to the back of the cart is 6 feet 2 inches; the inside measurements of the cart body being as follows:—length, 5 feet; depth, 1 foot 10 inches; width at bottom, 2 feet 8 inches; at top, 3 feet 6 inches; it is open in front, with a let-down back. The height of the bottom of the cart from the ground is 2 feet 2 inches, total height of the top from the ground 4 feet 2 inches. The wheels are 4 feet high; the width of the cart from the outside of one wheel to the outside of the other is 4 feet 11 inches; the tyres are 1½ inches wide; there are 14 spokes fitted into a nave 8 inches in diameter. The shafts are 8 feet long, which is an excessive length for the small ponies usually employed in Manchuria. Under the footboard was a box about 1 foot wide, opening to the front for small stores, such as grease, spanners, &c. A movable seat 14 inches wide was fastened by leather thongs across the sides of the cart. The carts had all canvas covers which exactly fitted the cart, but they had the disadvantage of being of little use if the cart were packed so that the load was above the sides. The cart with one horse carries 450 lbs., with two, about 800, but these

loads are increased by the weight of the driver and a certain amount of forage for the horse or horses which is not included in the load. Practically, owing to the bad roads it was injudicious to load more than 300 lbs. with one horse and 500 to 600 with two, otherwise there was every possibility of the cart breaking down. These carts were light, strong, and seemed to have no difficulty in going over bad ground.

The four-wheeled wagon carries about 900 lbs.; but even with four horses instead of two, it was found too heavy and cumbersome for the bad roads of Manchuria.

The endeavour was only to use the two-wheeled cart and the one-horse ammunition cart; but there were many two-horse ammunition and four-wheeled wagons in the country which had to be used for the want of better. In this connection it was extraordinary to see how all troops coming from Europe brought their normal transport with them, which largely consisted of four-wheeled wagons and two-horse ammunition carts, and this although the authorities on the spot had early recognized that these vehicles were unsuited to the theatre of operations.

The Chinese carts used in the country were two-wheeled vehicles with shaft draught; their capacity, with a full team, was about 1,500 lbs., perhaps a little more or a little less, depending on the state of the weather as, after rain, the roads got very heavy and were deep in mud.

The teams were extraordinarily varied and consisted of four or seven animals; a good normal team consisted of a horse in the shafts with six mules harnessed on in front in two sets of three abreast; but one often saw a bullock in the shafts with a horse, donkey and mule hitched on in front. No reins were used, all driving being done with a long whip, in the use of which the Chinese are extremely expert.

The Chinese pack equipment consists of one or two thicknesses of felt on the animal's back, on the top of which is laid a pad made of canvas stuffed with straw; the saddle is fastened on the top of the pad by girths, breast harness, and breeching to prevent the saddle moving backwards or forwards. The saddle is made of wood and consists of two wooden panels supporting a wooden frame rigidly attached to them.

The actual load is fixed on to a sort of wooden arch which fits into the frame on the saddle. The load is fastened on to this arch on the ground and when fixed is lifted up bodily and placed on the saddle. This arrangement obviates the necessity of undoing ropes at halting places, the load and arch to which it is attached being lifted bodily off the saddle.

The Chinese made large numbers of these saddles for sale to the Russians; those for sale were in no case so good as those which they used themselves; with these, however, they declined to part. Most of the saddles used by the Chinese themselves had no girths, but those offered for sale invariably had them.

One other form of transport, peculiar to China, deserves mention, namely, the wheel-barrow. This is very much on the lines of our wheel-barrow, having one wheel and handles; but the load is distributed differently. There is no body as in the European barrow; but there is a central partition with a shelf on either side on which the load is placed. These barrows carry very heavy loads, as much as 400 lbs., with two men, one pushing and the other pulling, or, sometimes a donkey is hitched in to pull and a man holds the handles and guides it. The great advantage of these barrows is that they can be used on the very narrowest raised paths above inundated fields.

The pony to be obtained in Manchuria is a very small, but wonderfully hardy, animal, which requires no looking after and very little food, and is admirably suited to the country. The mules, on the other hand, are very fine animals, the majority being almost up to the standard of gun mules, and the price anything but excessive. Mules quite up to gun mule standard could be bought from 18*l.* to 20*l.* even under the conditions prevailing this year in Manchuria, and a mule, superior to our ordinary transport mule in India, seldom costs more than 15*l.*

So far as I could ascertain no transport columns were organized in Manchuria as movable magazines for the army; all available transport, whether military or acquired locally, was at the disposal of the General of Communications.

The military transport, which was practically the expanded South Ussuri train battalion, calls for but few comments, as it was employed as organized, with the exception that it was employed on the lines of communication and not as a mobile field magazine.

The mule trains organized by the Russians were composed of Chinese mules, which were bought complete with their pack equipment; the muleteers were Chinamen with their own headmen; one man led three mules on the average, but these numbers were liable to increase or decrease according to the disposition of the animals. Each train consisted of 348 animals, and was commanded by a combatant officer, usually a captain or staff captain taken from one of the regiments serving in the theatre of operations; he had a junior combatant officer as an assistant and a few non-commissioned officers and men taken from an infantry regiment as supervisors of the Chinese and to act as escort on the line of march. On the 1st August 15 of these trains had been organized.

In July the Russians were busy organizing trains of country carts, of which they were reported to have bought 10,000 with their teams; the drivers were to be Chinese, as far as possible the former owners of the carts. Nothing was given out as to the composition of these trains, except that they were to have a Russian officer as commandant and a certain number of rank and file as transport assistants to act as escort, &c. The idea was that these trains of country carts were to be used as transport columns to form movable magazines.

In addition to these trains of country carts and pack animals, which the Russians bought outright, they made use of a large amount of hired transport. The system adopted was for the Transport Department to make a contract with a local contractor for the carriage of so many *pud* of stores to a certain place at so much a *pud*, and the contractor arranged how the stores were sent, either by wheel-barrow, pack animals, or wheeled transport; he was also apparently responsible for the supplies in transit, for I never saw any escort accompanying these hired carts until the Japanese were quite close up to Liao-yang, the ordinary line of communication troops being considered quite sufficient to protect them from Chinese robbers, and the contractor was supposed to take his own precautions against ordinary theft.

I never saw any mechanical transport, for which the country was quite unsuited.

(8 xii.) Outposts.

Plate.

Russian Outposts - - - - Map 95.

Outpost Orders.—I give below a translation of the orders issued by Lieut.-General Simonov to the advanced mounted detachment at Wa-fang-tien, dated the 10th and 11th June:—

Orders to the Advanced Mounted Detachment.*

Map, 2 versts = 1 inch.

Wa-fang-tien,

28th May (10th June), 1904.

1. On the 29th May one battalion of rifles, under the command of a field officer, to be detailed by the general officer commanding the 1st Brigade, 1st East Siberian Rifle Division, is ordered on outpost duty. The outpost battalion will relieve No. 2 Section of the outpost line on the front, Chen-ta-tun—Ku-chia-tun, both inclusive.
2. The detachment on duty (general reserve of outpost line) will consist of half a battalion of rifles and two field guns, the detachment on duty will be relieved at 10 a.m.
3. No. 1 Section of the outpost line from the village of Li-chia-tun to the village of Wu-chia-tien, both inclusive, will be held by one squadron of the 8th Siberian Cossack Regiment, in addition half a squadron 8th Siberian Cossack Regiment will hold the village Chen-san-shih-li-pu.
4. To strengthen No. 3 Section of the outpost line half a squadron 8th Siberian Cossack Regiment will proceed to the village of Wu-chia-tun at 10 a.m., the half squadron of Dragoons now at Wu-chia-tun will go to Lu-chia-kou to support the posts on the line Kai-ping-chuang—Chi-chia-tun.
5. Colonel A., 1st East Siberian Rifle Regiment, is appointed camp field officer for to-morrow, the 29th May; he will be responsible for the internal order of the bivouac and will station detachments, each of half a company, on each face of the bivouac; he will detail a guard of four men for the heliograph station, and fatigue man as orderly.

* See Map 95.

In addition to these trains of animals, which the Russians borrowed, of a large amount of hired transport for the Transport Department contractor for the carriage place at so much a store were sent wheeled transport supplies in these hire Liao-yar consider and + aga:

Wa-fang-tien,

29th May (11th June), 1904.

1. The enemy occupies a fortified position from Pu-lan-tien to the mouth of the Ta-sha River; to-day he has been trying to drive back our post at Wu-chia-tun since the morning, but was repulsed with loss on the arrival of our reinforcements. The post at Li-chia-tun has been occupied by the enemy; I have sent a battalion and two squadrons to retake the village. I consider it necessary to reinforce our outposts, which will be distributed as follows:—

1.—(a) No. 1 Section outpost line.—Two companies of rifles to be told off by the general officer commanding 1st Brigade, 1st East Siberian Rifle Division, and one squadron, 8th Siberian Cossack Regiment.

No. 1 piquet, Li-chia-tun— $\frac{1}{2}$ company, $\frac{1}{2}$ squadron.

No. 2 piquet, Chen-ta-tun— $\frac{1}{2}$ company, $\frac{1}{2}$ squadron.

No. 3 piquet, Wu-chia-tien— $\frac{1}{2}$ company, $\frac{1}{2}$ squadron.

Reserve, Chu-ti-kou—1 company, $\frac{1}{2}$ squadron.

(b) No. 2 Section outpost line—

1st Sub-section.

No. 1 piquet, Chen-ta-tun— $\frac{1}{2}$ company, 3 mounted orderlies.

No. 2 piquet, Hsiao-chia-tien— $\frac{1}{2}$ company, 2 mounted orderlies.

Reserve on heights north of the piquets— $\frac{1}{2}$ company, $\frac{1}{2}$ squadron.

2nd Sub-section.

No. 1 piquet, Wa-fang— $\frac{1}{2}$ company, 2 mounted orderlies.

No. 2 piquet, Ku-chia-tun— $\frac{1}{2}$ company, 3 mounted orderlies.

Reserve on the heights north of piquets— $\frac{1}{2}$ company, $\frac{1}{2}$ squadron.

General Reserve, Hsin-hsi — 1 company, $\frac{1}{2}$ squadron.

(c) No. 3 Section outpost line—

No. 1 piquet, Kai-ping-chuang— $\frac{1}{2}$ company, $\frac{1}{4}$ squadron.

No. 2 piquet, Li-chia-tun—1 company, $\frac{1}{4}$ squadron.

No. 3 piquet, Chi-chia-tun — $\frac{1}{2}$ company, $\frac{1}{4}$ squadron.

Reserve, Lu-chia-kou—2 companies, $\frac{1}{4}$ squadron.

Isolated detached posts.—

Fu-chou—1 squadron, which will watch from the coast to Chen-san-shih-li-pu.

Chen-san-shih-li-pu— $\frac{1}{4}$ squadron.

Wu-chia-tun— $\frac{1}{4}$ squadron, Dragoons.

The Dragoons and Cossacks will be relieved on the 30th May by the Primorsk Dragoons and 4th Siberian Cossack Regiment, under the orders of the commanding officers of those regiments.

2. . . .

3. The outposts must be relieved by 11 a.m.

4. . . .

5. In case of an alarm, troops and trains will move as per attached sketch. The field officer of the day will command the trains; escort, 1 company of rifles, 1 squadron of Cossacks.

6. Reports from the outposts to reach me at 7 a.m. and 7 p.m.

7. Officers commanding Nos. 1 and 3 Sections will keep up connection with Head-Quarters by means of flying posts; three reliefs, one of which must remain near Head-Quarters.

8. Staff will remain at Wa-fang-tien.

Signed by the Officer Commanding the Detachment,
Lieut.-General SIMONOV.

True copy.

Colonel of the General Staff DANIELOV,
Chief of the Staff.

On the 11th June the total force at General Simonov's disposal was six battalions of infantry, eight field and six horse artillery guns and seventeen squadrons, out of this force nine companies and five squadrons were on outpost duty proper, two companies and two field guns formed the detachment on duty, or sort of general reserve for the outposts and two companies were on guard round the camp, with an inlying piquet of two companies, two field guns and two squadrons as a sort of general reserve to fall back on, or a total of 15 companies, 7 squadrons, and 4 guns on duty out of 24, 17 and 14 respectively.

Two small hand sketches were attached to the orders of the 11th, one showing roughly the distribution of the outposts, and the other showing how the troops were to move in case of alarm.

As to the actual working of the outposts, all patrol work towards the enemy was done by the cavalry, sentries only being posted by the infantry; so far as I could ascertain there was no patrolling at night by the outposts, and detached sentries were withdrawn to the piquets. The country was open between the Russian and Japanese outpost lines, and certainly from the experience of Russian patrols there was no difficulty in passing the outposts at night, and the Russians wisely avoided wearing out their men by keeping a large number of sentries dispersed all along the line. By day a good number of groups were detached from the piquets on all the little knolls in their vicinity. I saw one of these groups consisting of six men nearly a mile away from their piquet, they were being withdrawn when I was passing about 6 p.m. The question of cooking was not taken into consideration as the piquets were all in villages in which the inhabitants remained, and as they carried on their ordinary daily routine there was no necessity to stop the piquets cooking.

In addition to the regular reports to reach head-quarters at 7 a.m. and 7 p.m. any other information was sent in by the flying post, if there was anything of an urgent nature it was sent in by an officer; on the 18th June the news of the Japanese advance was brought in by an officer.

Little was done in the way of putting villages into a state of defence, but the positions of sentries or look-out posts were concealed from view as far as possible by planting brushwood round the actual place where the men were stationed.

The detachment on duty was entrenched and the guns were in gun pits, the detachment was stationed at Chian-hsia-wa-tzu, about 3 miles in advance of Wa-fang-tien, and about 6 miles in rear of the reserve of No. 2 Section of the outpost line. The outpost line from Chen-san-shih-li-pu to Wu-chia-tun was nearly 30 miles long, but the country watched by the three sections of the outpost line, excluding detached posts, *i.e.*, from Li-chia-tun to Chi-chia-tun, was under 20 miles.

As regards infantry outposts pure and simple, when discussing the surprise of the Tambov Regiment near Liu-chia-ling on the 31st July, I was told that no infantry regiment ought to be surprised as the commanding officer had his mounted scout detachment, some of which ought to be on outpost duty and were available for patrol work towards the enemy; consequently it looks as though no outposts were ever posted without some mounted men attached for patrol work.

Generally speaking it appeared to me as though the idea was to have a few largish groups in the hands of officers, which

could make some organized resistance, instead of frittering the troops away in lines of sentries, which were everywhere weak and were out of the hands of the officers; as it seemed to be universally recognized and accepted as inevitable that single men would always be able to get through an outpost line, no matter how thick the chain of sentries might be, it was thought better to keep the outpost troops in hand and so be able to offer some serious resistance to any advance in force. In other words the duty of outposts seemed to be rather to prevent the main body being attacked before it could form up for battle than to prevent the enemy in small parties from getting through for the purpose of obtaining information.

(8 xiii.) Veterinary Services.

Beyond that there was a Chief Veterinary Inspector for the army, who reported to the Surgeon-General of the army, and so came under the supervision of the Adjutant-General through the Chief Sanitary Inspector, Lieut.-General Trepov, I could get no details as to veterinary administration in the field.

I do not think that there were any horse infirmaries or veterinary hospitals ; I made repeated inquiries, but could never locate any.

A cavalry regiment was supposed to have two veterinary surgeons and one veterinary dresser, carrying a veterinary haversack, per squadron. The Primorsk Dragoons, when I was with them, had only one veterinary surgeon, but they had one dresser per squadron. There was a veterinary dresser with non-commissioned rank, who attended the horses of Army Headquarters ; this man refused to attend a horse of the senior member of one foreign mission unless he was paid in advance. This officer reported him ; the man excused himself on the ground that it was not payment for his services which he demanded, but money in order to buy drugs for the colonel's horse, as he had no supply available.

(8 xiv.) Remount Department.

I could find out nothing about the organization of any remount department, and I do not believe that such a department existed in Manchuria. Before the war the Primorsk Dragoons had a remount officer in Siberia, who bought them their remounts according to requirement. When the mobilization was ordered, this officer and his staff of men rejoined regimental head-quarters at Razdolni, and the regiment indented on its depôt for horses to replace casualties, but nobody could tell me how the depôt got horses.

Remounts for the artillery were sent from Russia, and I passed many trains full of artillery remounts on my way to Europe, but I could find out nothing as to how the supply was organized, or what department dealt with it.

In Cossack regiments the remount question was simplicity itself. When remounts were necessary an officer was sent to buy the necessary number of animals; the district in which purchases were usually made was round Tsitsihar, the best average price being 13*l.* an animal, but many regiments had to pay an average of 20*l.* The possibility of being in a country where animals are not obtainable, and where there is no railway communication, has apparently not entered into the calculation of the authorities, as there is no machinery in existence beyond that of deputing an officer to buy.

The following story was told me by an attaché who was attached to Rennenkampf's division for some time in illustration of what a bad colour grey is for cavalry horses. A patrol of 32 men was sent out, of which 23 men were mounted on greys, the remainder on other colours. All the grey horses were killed, but none of the others were touched. The attaché maintained that the story was true, and if it is it certainly speaks volumes against the use of grey horses.

(8 xv.) Lines of Communication.

The General of Communications was the officer responsible for the communications of the army; with some reservations as to submitting certain schemes and proposals through the Quartermaster-General, he was directly under the Chief of the Staff.

His work was divided into four main branches:—

1. Railways.
2. Lines of Communication.
3. Posts and Telegraphs.
4. Transport.

Railways Branch.—The railway from Manchuria Station, the western terminus of the Eastern Chinese (Manchurian) Railway, was under the supervision of the General of Communications. The management of the railway was broadly divided into three separate sections, traffic, technical, and protection.

The various railway station commandants were the responsible subordinates of the General of Communications so far as the working of the train service was concerned. They could not vary or accelerate trains without his sanction, and to all intents and purposes were the traffic superintendents of the line. They were assisted by the civil staff which, however, was entirely under their orders. This arrangement, in some cases, led to considerable friction.

The construction, repair, and improvement of the line, as well as all workshops, were entirely entrusted to the railway troops. For purposes of administration the railway was divided into sections: each section under the command of a field officer of one of the railway battalions who was responsible for the effective carrying out of the above duties on his section of the line.

There were special troops told off for the defence of the railway in addition to troops at large centres who were kept ready as reinforcements. The special troops were the Frontier Guards, cavalry, artillery and infantry, though a few squadrons and guns were attached to the field troops. After deducting troops so employed, there were available 43 squadrons, 72 companies and 120 guns of the Frontier Guards, one regiment Trans-Baikal Cossacks, dépôt and reserve squadrons Trans-Baikal Cossacks, Irkutsk and Krasnoyarsk Cossacks (six squadrons), dépôt and reserve battalions 1st Siberian (Reserve) Division, three battalions Trans-Baikal Cossack Infantry as well as other details. At the end of August 25 battalions of Siberian Militia (*Opolchenie*) were *en route* for Manchuria to take the place of the Frontier Guards, who were to be organized into mobile detachments to operate against the Hung-hu-tzu. The defence

of the line was in three zones ; the first along the railway itself, the second on either side of it, to a distance of $\frac{3}{4}$ to $1\frac{1}{2}$ miles, and beyond again, the third stretching to a distance of 20 miles. In addition, the line was divided into sections of defence for purposes of command and administration.

The troops defending the first zone consisted entirely of infantry, of which there were posts of from ten to twenty men every two to four miles all along the line ; some of these posts were fortified, others not, but all gave good protection against the weather, being well-built brick houses ; from these posts the line was constantly patrolled by small parties of from two to four men. Every culvert had a double sentry on it and the bridges had special guards of from fifty to four hundred men, the strength of the guards depending on the size and importance of the bridge ; at either end of every bridge there was some sort of earthwork, with in some cases one or two guns mounted.

At stations there was a reserve for the posts, a certain number of men of these reserves were always kept ready to move off at a moment's notice. These reserves did not of necessity belong to the special troops told off for railway protection, but were sometimes composed of the field troops who might be in the vicinity.

The service was hard and unpopular, but the line was effectively protected by the above-mentioned small patrols, which could never be more than two miles away from a block-house, the garrisons of which were quite strong enough to drive off small parties or to hold their own against large parties until they were reinforced by the reserves from the railway stations.

The troops of the second zone consisted of both cavalry and infantry and were distributed in posts, the strength and distance apart of which varied according to circumstances. The duties of the commandants of these posts were to patrol all ground between their posts and the railway line in connection with the posts on either side of them ; they were also directed to assist in the repulse of any organized attack upon the railway. In the outer zone were mounted men only ; the troops were distributed in posts, the commandants of which had the same general orders as those of the second zone.

No rules were laid down as to size and composition or frequency of patrols, these details being left to the discretion of the various commandants.

The railway troops in the first instance had nothing to do with the defence of the line, but an order was issued in April directing commandants of railway battalions to assist in taking measures for the protection of the line.

No train was allowed to move without a certain number of armed men on board to act as a garrison in case of attack. The senior officer in every troop train was directed always to have a certain number of men armed and ready for immediate action,

and to halt the train and attack any parties which might be trying to destroy the line.

Up to the time of my leaving Mukden, 15th August 1904, I heard of no authenticated case of the railway having been damaged.

Lines of Communication Branch.—The Lines of Communication Branch carried out the organization of the lines of communication, arranged for the formation of halting places and places where troops were provided with meals (*prodovolstvennyi punktyi*) as opposed to food and accommodation; in addition, it was responsible for guard and escort services, and that supplies and shelter were available for all detachments moving along the line.

On the railway, feeding places were organized in such a manner that troops moving by rail were certain of getting at least one hot meal every 24 hours. When the officer in command of a troop train was given his time table, the stations at which these feeding places were organized were always inserted, and all that he had to do was to telegraph on that he would require a meal for a certain number of men about a certain time, and he was sure to find it ready; if he did not order it in advance no preparations were made.

In addition to these feeding places, line of communication post or rest camps were organized at large stations where detachments or individuals were collected together in large barracks for discipline and kept under proper supervision until arrangements could be made for sending them on to their units; there were lines of communication post at Liao-yang, Tieh-ling and Harbin. In addition to the barracks for men, there were furnished rooms for the accommodation of individual officers.

On road lines of communication line of communication post were organized every 16½ miles, with very often small intermediate ones. Each station was under command of a field officer who was supreme in his own station and could not be superseded by senior officers passing through; he commanded all troops temporarily halted at his station, as well as all troops permanently stationed in his sphere; his authority extended to half-way to the next station on either side. A line of communication post was not meant for the accommodation of units but for detachments or individuals. Units having their own transport and supply arrangements usually camped outside the limits of a line of communication post, though generally near it for the sake of any stores or supplies which they might wish to purchase.

Post and Telegraph Branch.—I was able to get no information as to the working of the Post and Telegraph Branch.

Transport Branch.—The working of the Transport has been fully described under "Transport."*

* See page 287.

(8 xvi.) Positions and Fortifications.

Plates.

The defences of Liao-yang :—

I. General plan	-	-	-	} bound in text.
II. General scheme of defence works	-	-	-	
III. Types of infantry fire trenches	-	-	-	
IV. General plan of eight-gun battery	-	-	-	
V. Small redoubt on an island	-	-	-	
VI. Russian redoubt	-	-	-	Map 96.

The Russians fortified a large number of positions : Wa-fang-kou, Ta-shih-chiao, Hai-cheng, An-shan-tien. Liao-yang, and others. Hai-cheng and An-shan-tien were heavily fortified for ordinary defensive positions, but Liao-yang was really a field fortress.

An-shan-tien.—The position at An-shan-tien was astride the railway, and when I saw it at the beginning of May it contained 16 redoubts and 12 batteries, besides numerous infantry shelter trenches. The various works must have taken a considerable time to make as the ground was very rocky. A road had been made connecting all the redoubts and batteries, but I saw no signs of a field telegraph. Some of the works were well concealed, but others were visible from a considerable distance ; the field of fire was generally good, and a frontal attack would have been a costly undertaking, but in the end the position was evacuated without fighting owing to the Japanese turning it on the east. The point that struck me most about it was the complete absence of any head-cover ; this want of head-cover I noticed in all the Russian works that I saw.

Liao-yang.—The Russians constructed what was practically a large field fortress at Liao-yang.*

The accompanying sketch of Liao-yang and its vicinity shows, as far as I was able to fix them, the semi-permanent redoubts in existence when I left the town in the beginning of August.

The works consisted of large semi-permanent redoubts, smaller ones, gun pits, infantry trenches and zigzag covered approaches from the town or neighbouring villages.

* See Plate facing page 302. Defences of Liao-yang, I.

The general plan of the fortifications on the left bank of the River Tai-tzu from Mu-chang to the landing place for junks is best shown graphically, *vide* attached sketch.* From this figure it will be seen that speaking generally there were three circles of defence; on the outer circle were the large works, on the centre one the smaller works, and on the interior one the gun pits; these works were linked by infantry shelter trenches flanking one another and the gun pits, being themselves flanked by the redoubts from which they started.

There were twelve of these redoubts south of the river, large and small, for garrisons of varying strength from 200 to 400 men.

The large redoubts were all more or less alike, the smaller ones being also of very similar construction.† The ditch of the redoubts had a series of military pits in it covered with a wire entanglement; the wings commanded a second series of military pits and wire entanglement running into the ditch proper, and had emplacements for a gun on either side so as to sweep the flanks; the whole outside of the work was covered by a series of military pits covered with a wire entanglement. Wells were sunk in the redoubts and the garrison had dwelling accommodation provided in bombproof shelters. When I last saw the works nothing in the way of head-cover had been provided for the infantry when manning the parapet, but the extreme difficulty which the Japanese had in taking them shows that these works amply justified their construction. When the foreign attachés first saw these redoubts most of them were inclined to scoff at the military pits as antiquated obstacles, but the result shows that military pits covered with a wire entanglement are a very deadly and dangerous form of obstacle.

The infantry trenches, of which there were many types, require no remarks beyond the fact that no head-cover seemed to have been provided. For types of these trenches, *see* attached sketches.‡

The gun pits were of many different types. A new and unusual type is shown in the sketch.§ These figures give all necessary details. So far as I could see, no arrangements were made for keeping the wagons close to the guns for purposes of ammunition supply; the idea was to keep the wagons and horses in the nearest village, to which there was a zig-zag, covered approach; a recess was hollowed out close to each gun to hold the ammunition required for use, which had to be replenished from the wagons in the villages.

On the right bank of the Tai-tzu was a series of works on the hills south of Hsin-cheng, which formed the extreme left of the Russian position when I last saw it. These works

* *See* Plate opposite. Defences of Liao-yang, II.

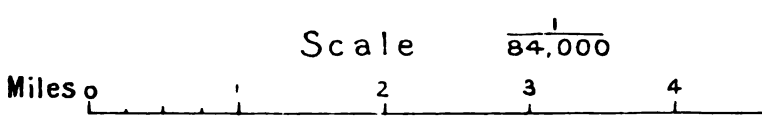
† *See* Map 96, reproduced from Vol. II.

‡ *See* Plate opposite. Defences of Liao-yang, III.

§ *See* Plate opposite. Defences of Liao-yang, IV.

To face page 302.

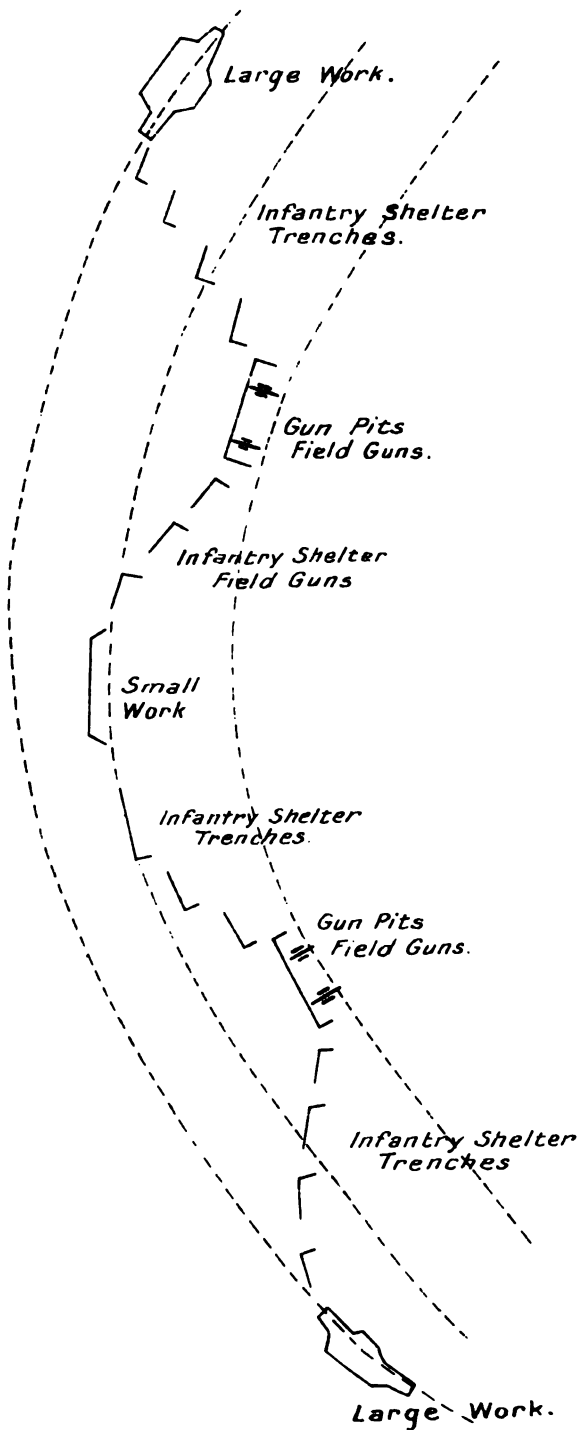
THE DEFENCES OF
LIAO - YANG.
I
GENERAL PLAN



DEFENCES OF LIAO-YANG.

II

GENERAL SCHEME OF DEFENCE WORKS.

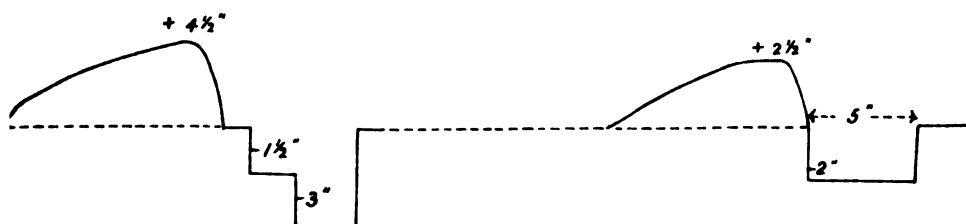
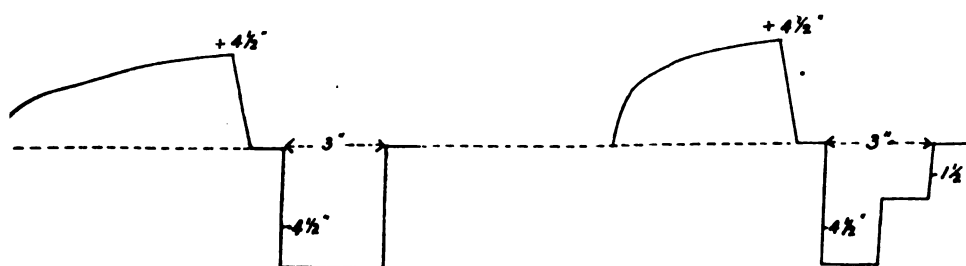


page 302.

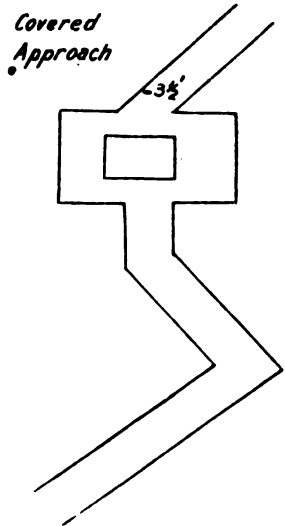
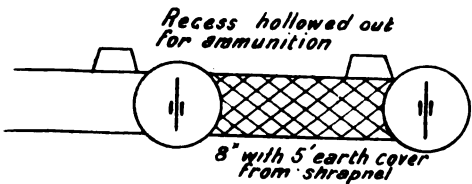
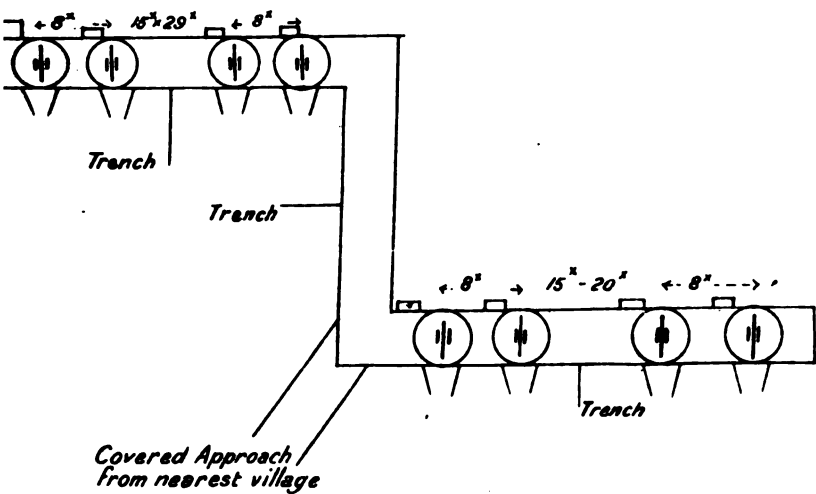
THE DEFENCES OF LIAO-YANG.

III

TYPES OF INFANTRY FIRE TRENCH.

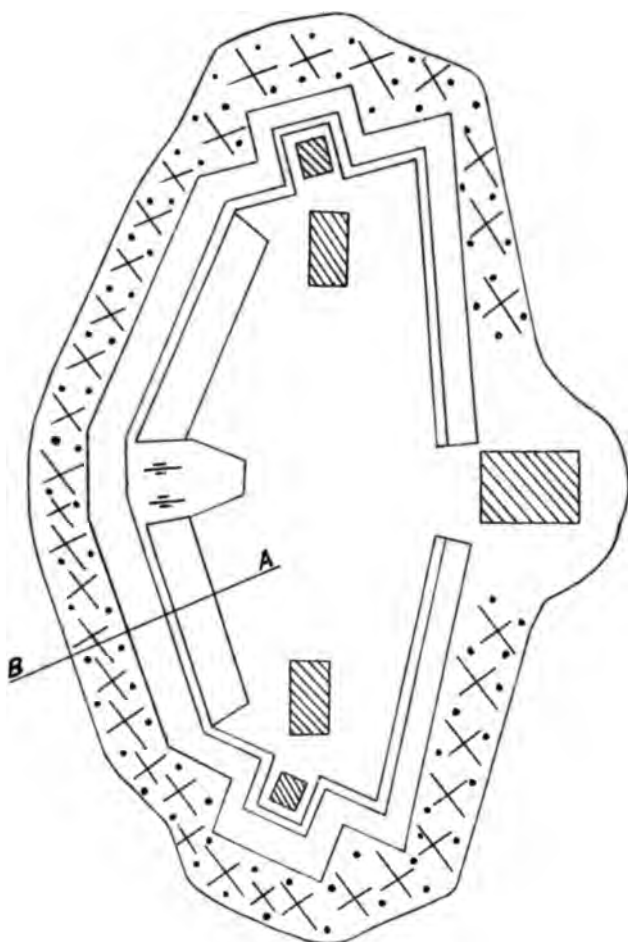


THE DEFENCES OF LIAO-YANG.
IV
GENERAL PLAN OF EIGHT GUN BATTERY.

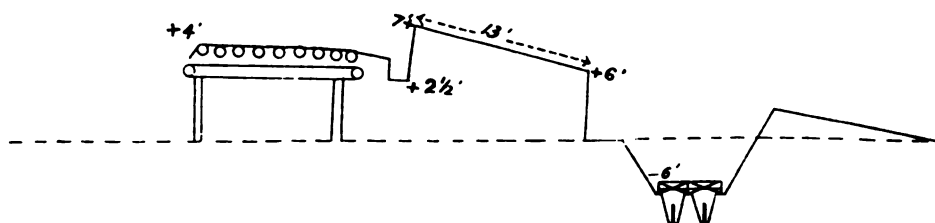


THE DEFENCES OF LIAO-YANG.

ROUGH SKETCH OF SMALL REDOUBT ON AN ISLAND.



CROSS SECTION A-B.



consisted of emplacements for guns and infantry parapets, and were so constructed that every available point from which a view could be obtained was prepared for gun or rifle fire.

A small work which was constructed on the right bank of the river for the protection of a bridge which was projected near the landing place for junks, is shown in the sketch.*

So far as I could ascertain no mines were constructed in connection with the defences, as the Commander-in-Chief considered that they would be just as dangerous to his own as to the enemy's troops.

Before the Japanese actually attacked Liao-yang, the line of hills south of the town from the railway to the river was fortified, and formed the advanced line of fortifications, and it was not till these hills were occupied that the actual redoubts came into view.

The redoubts could be shelled from these hills, but they were very much harder to locate from them than I should have expected, and being provided with ample bombproof shelter, their garrisons were quite safe during the artillery bombardment. The absence of any sort of head-cover for the infantry when lining the parapet was very noticeable, and the width as opposed to depth of many of the shelter trenches was much commented upon. It always appeared to me that the Russians would have been wiser had they placed all their works on the right bank of the Tai-tzu, for once the Japanese gained a firm footing in the hills east of Hsiu-cheng, all the works south and west of Liao-yang were useless, and would have to be evacuated, and this is what actually happened; the main line of defence south and west of the town was only used to cover the retreat of the army after the Japanese had established themselves in the hills north of the river. By taking up the position which they did the Russians had the river, a big obstacle during the rains, cutting their position in two, over which there were not nearly enough bridges, and those that there were, when I left, were much too close together. The town of Liao-yang, with a population of 60,000 at least, being inside the works, was another source of weakness, as it contained many disaffected Chinese, and required policing.

So far as the accounts of the actual battle can be followed, it appears as though all the works west of the town were absolutely useless, and that all the fighting was on the railway or east of it, which bears out my contention that the Russians would have been wiser had they confined their fortifications to the right bank of the river.

* See Plate V. facing page 302, "Small work on island."

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